HITACHI

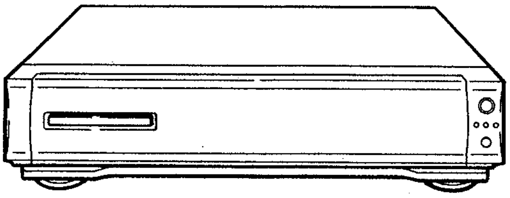
V01417

SERVICE MANUAL

TK

No.4318E

VT-F90EM (JU),(HKN),(SWN)



SPECIFICATIONS

Format:	VHS PAL, NTSC & SECAM
Recording:	Rotary Two-Head Helical Scan Azimuth Recording
Head:	Double Azimuth 4 heads 2 for SP 2 for LP/EP
Tape Speed:	PAL/SECAM/MESECAM: 23.39 mm/sec (SP), 11.7 mm/sec (LP) NTSC: 33.35 mm/sec (SP), 16.67 mm/sec (LP) (playback only), 11.12 mm/sec (EP)
Tape Width:	12.7 mm
Operation Temperature:	5°C to 40°C
Video:	PAL, SECAM & MESECAM colour & CCIR monochrome signal 625 lines Standard (3.58 MHz) and modified (4.43 MHz) NTSC colour & EIA standard 525 lines
Recording Time:	480 min. (using E-240 cassette) (PAL/SECAM LP mode) 480 min. (using T-160 cassette) (NTSC EP mode)
Antenna Input:	PAL mode: VHF: 2—12, UHF: 21—69, CATV: S1—S41 American NTSC mode: VHF 2—13, UHF: 14—69,.CATV: J—W+29 Japanese NTSC mode: VHF 1—12, UHF: 13—62
RF Output:	UHF channel 37 (32—42 adjustable) .... System I, G and K UHF channel 34—36 (29—42 adjustable) .... NTSC
Video Input:	0.5 to 1.5V p-p 75 ohm Unbalanced
Video Output:	1V p-p 75 ohm Unbalanced
S/N Ratio (Video):	43 dB
Audio (Linear)	S/N Ratio : 43dB Frequency Range : 70Hz to 12kHz
Hi-Fi Audio	Frequency Range : 20Hz to 20kHz Dynamic Range : More than 90 dB Wow and Flutter : Less than 0.005% WRMS
Horizontal Resolution:	Colour 260 lines
Audio Input:	—8 dBm 50 Kohm
Audio Output:	—8 dBm 1 Kohm
Fast Forward/Rewind time:	About 3 minutes (with E-180/T-120 cassette)
Power:	AC 100 — 240V, 50/60 Hz
Power Consumption:	23 W (including timer)
Timer:	24 hour digital indication
Cabinet Size:	380 mm(W) x 86 mm(H) x 340 mm(D)
Weight:	5.0 kg
Accessories Included:	1 — PAL-NTSC aerial cable 1 — Infrared Remote control unit 2 — Batteries 1 — Power socket adaptor 1 — Audio/Video Cable 1 — Aerial plug adaptor

* Design and specifications are subject to change without notice.

This manual includes only the VT-F90EM(JU) parts list in chapter 7.
For the VT-F90EM(HKN),(SWN) parts list, refer to the following manual.

MANUALS RELATED TO THE VT-F90EM

Name of Manual	Language	Manual No.	Chapters included
Parts List VT-F90EM(HKN), (SWN)	English	4318E-1	Chapters 7

VHS
This video deck is a VHS type video recorder. For proper operation, only the VHS type cassette must be used.

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

VIDEO CASSETTE RECORDER

July 1993

TOKAI Consumer Electronics Division

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SAFETY PRECAUTIONS

The following precautions should be observed when servicing.

1. Since many parts in the unit have special safety-related characteristics, always use genuine Hitachi replacement parts. Especially critical parts in the power circuit block should not be replaced with other makers'. Critical parts are marked with ⚠ in the schematic diagram.
2. Before returning a repaired unit to the customer, the service technician must thoroughly test the unit to ascertain that it is completely safe to operate without any danger of electrical shock.

FEATURE TABLE

ITEM		VT−F90EM
GENERAL	VIDEO HEADS	DA4 Heads + Hi-Fi SP : 48μm LP : 24μm Hi-Fi: 28μm
	BASIC CHASSIS TYPE	ACE
	CAPSTAN DRIVE	DIRECT DRIVE
	CYLINDER MOTOR	THREE-PHASE OUTER, ROTOR:300Hz
	POWER SUPPLY	AC 110-240V (HKN,SWN) AC 100-240V (JU) 50/60Hz
VIDEO	COLOUR	I,B/G,M,D/K
	VIDEO	PAL/SECAM/MESECAM/PAL60/ 3.58NTSC/4.43NTSC
TUNER	TUNING SYSTEM	F.S TUNING
	CATV	YES
	CHANNEL PRESET No.	49CH
	RF CONVERTER	I,G,K,M-AUTO
	RF CONV. CHANNEL (34-42)	37
	CHANNEL PRESET BY OSD	YES
TIMER	REC PROGRAM	8 PROG./1 YEAR
	IRT	YES
	BACK-UP TIME	ABOUT 30 MIN.
	TIME REC ALARM	YES (BY OSD)
DISPLAY	TIME(24,AM/PM)	24
	PROGRAMME REVIEW	OSD
	OSD FEATURE LIST	YES
	COLOUR OSD(BLUE BACK)	YES
	LEVEL METER	YES
OTHER FEATURE	LOADING MECHANISM	FULL LOADING
	LINEAR TIME COUNTER	YES
	COUNTER GO-TO/INDEX	YES
	COUNTER REMAIN	YES
	SCANA PLAY	YES
	EDIT IN JACK	YES
	AUTO HEAD CLEANING	YES
	MANUAL HEAD CLEANING	YES
	NTSC/PAL CHANGE	YES (AUTO)
	SECAM/MESECAM SWITCH	YES (REC:SW,PB:AUTO)
	NICAM	YES(HKN,SWN)
	MPX AUDIO	YES(JU)
	AI PICTURE	YES
	MODE LOCK	YES
	GAME FEATURE	SLOT GAME
AUTO FEATURE	AUTO TRACKING	YES
	AUTO OPERATE ON	YES
	AUTO PLAY	YES
	AUTO EJECT	YES
	AUTO REWIND	YES
	AUTO REW.SHUT OFF	YES
	ENDLESS PLAY	YES
REMOTE CONTROL	PROGRAMME SETTING	LCD
	CLOCK SETTING	LCD
	VTR1/VTR2/TV	YES
	PROGRAMME MEMORY	YES
	JOG/SHUTTLE RING	YES
	SHOW VIEW	YES (HKN,SWN) / NO (JU)

MAIN CONTROL ICs TABLE

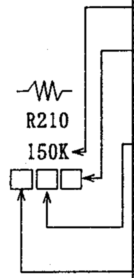
ITEM	VT-F90EM	
VIDEO SYSTEM		
Y/CHROMA PROCESS	HT7445 (HKN, SWN)	(IC201)
	HT7425A (JU)	(IC201)
FM EQ	M52364	(IC203)
1/3H DELAY	TL8828P	(IC1201)
SECAM CHROMA PROCESS	M51646	(IC1301)
SECAM DET.	XRA7025L	(IC2301)
PICTURE CONTROL(AI)	NJM2502L	(IC3201)
PRE/REC AMP		
VIDEO HEAD AMP	HA118162NT	(IC1)
AUDIO HEAD AMP	BA7740S	(IC2)
FM DET	BA7047S	(IC3)
ON SCREEN DISPLAY		
CHARACTER GENERATOR	LC74760M8794	(IC1401)
AUDIO		
Hi-Fi AUDIO PROCESS	AN3961NFBPAA	(IC501)
SERVO		
SERVO CONTROL	HD49781F	(IC601)
SYSTEM CONTROL/TIMER		
SYSTEM CONTROL μP (MAIN μP)	μPD78056Y	(IC901)
EA-ROM	X24C02	(IC902)
LOADING MOTOR DRIVE	XRA6209U	(IC903)
I/O EXPANDER	BU2042	(IC905)
DISPLAY DRIVE	μPD16312	(IC701)
NICAM (HKN, SWN)		
NICAM DEMODE	CF70091A	(IC1801)
D/A CONV.	TDA1543	(IC1802)
INTERGRATOR	BA4560	(IC1803)
ACTIVE LPF	AFS816F	(IC1806)
MPX AUDIO (JU)		
MTS DECODER (JAPAN)	CX1519S	(IC1801)
MTS DECODER (USA)	HTS7332	(IC1851)
MPX AMP	BA3129F	(IC1802)

WHEN USING THIS SERVICE REFERENCE MATERIAL

1. How to Read Abbreviations

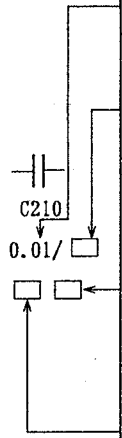
Values, dielectric resistances (power capacitances), tolerances, grades of resistors (excluding variable resistors, etc.) and capacitors are indicated in the schematic diagrams using abbreviations. Collate these abbreviations and the following tables to read abbreviations and replace parts correctly.

[RESISTORS]

	Value	No indication ················ ohm K ···························· kohm
	Tolerance	No indication ·············· ± 5% K ························· ±10% M ························· ±20%
	Power capacitance	No indication ············· 1/8W (All capacitances other than 1/8W are indicated in schematic diagrams with W omitted.)
	Type	No indication ·· Carbon film fixed RC ················· Carbon solid RW ·········· Power-type wire wound solid RS ········ Metal oxide film solid RN ·············· Metal film solid

Example
R210
150K ········· 150 kohm, carbon solid
RC.1/2.K   1/2W, ±10%

[CAPACITORS]

	Value	No indication ················ μF P ····························· PF
	Dielectric resistance	No indication ·············· 50WV (All resistances other than 50WV and those of electrolytic capacitors are indicated with WV omitted.)
	Tolerances	No indication ·············· ±10% J ·························· ± 5% M ·························· ±20% C ······················· ±0.25PF Z ······················· +80%-20% (No indication for electrolytic capacitors. (excluding tantalum and high stability electrolytic capacitors.)
	Type	No indication ··· Ceramic, general electrolytic (see circuit symbol to distinguish from ceramic.) MYL ······················ Mylar (Polyester film) STY ······················ Styrol TA ······················ Tantalum KU ················· High stability electrolytic MP ·············· Metallized paper

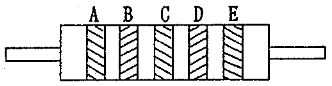
Example
C210
0.01/25 ······ Mylar, 0.01μF, 25WV
MYL.J   ±5%

2. Markings in Schematic and Circuit Board Diagrams

(1) Parts with marks "■" attached to circuit numbers in the schematic and circuit board diagrams are discrete components.
(2) Parts with marks "●" attached to circuit numbers in the schematic and circuit board diagrams are chip components.
(3) Parts with marks Ⓩ in the circuit board diagrams are leadless jumpers.

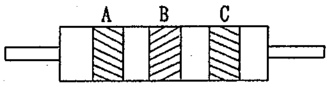
3. How to Read Capacitance of Resistance-Type Capacitors and Coils

[CAPACITOR]



CAPACITY : (10A+B)×C (PF)
TOLERANCE : D
RATED VOLTAGE : BODY COLOR
PINK : 25V
GREEN : 50V
CHARACTERISTICS : E

[COIL]



INDUCTANCE : (10A+B)×C (μH)

COLOR	A, B	C	D	E
Black	0	10^0	±20%	For temperature compensation
Brown	1	10^1		
Red	2	10^2		
Orange	3	10^3		
Yellow	4	10^4		
Green	5	10^5		
Blue	6			
Violet	7			
Gray	8		±30%	High dielectric constant type
White	9			For temperature compensation
Gold		10^{-1}	± 5%	
Silver		10^{-2}	±10%	High dielectric constant type

4. Cautions on Use of MOS ICs

(1) MOS ICs are inserted in black foam for shipment. This foam is a conductor which short-circuits between the leads to prevent damage. Do not remove ICs from this foam during storage. Avoid removing ICs from this foam, placing them on plastic which is likely to be charged with static electricity or inserting them into styrol foam.
(2) High voltages may be applied during soldering caused by leakages from the soldering iron. Be sure to ground the tip of the soldering iron or use a low voltage soldering iron.
(3) The human body and clothes made of synthetic fiber or nylon gloves may be charged with several thousand volts of static electricity because of friction. Workers should be grounded.

SERVICE MANUAL ABBREVIATION LIST

A	
ACC	Automatic Color Control
ACK	Automatic Color Killer
ADC B-Y	Analog to Digital Converted B-Y Signal
ADC R-Y	Analog to Digital Converted R-Y Signal
ADC Y	Analog to Digital Converted Luminance
ADD	Adder
ADRS	Address
A.DUB	Audio Dubbing
AF	Autofocus
AFC	Automatic Frequency Control
AGC	Automatic Gain Control
AGC KILLER	AGC Killer Voltage
ALC	Automatic Level Control
AIC	Automatic Iris Control
AM	Amplitude Modulation
AMP	Amplifier
APC	Automatic Phase Control
ASBL	Assemble (Phase Matching)
AUD.	Audio
AUX	Auxiliary
A5V	Always 5V B+ Source

B	
B (BLU)	Color Signal BLUE
BATT.	Battery
BF	Burst Flag
BG	Burst Gate or Back Ground
BGP	Burst Gate Pulse
BH	Power Supply for Selecting VHF High Band
BL	Power Supply for Selecting VHF Low Band
BLK	Blanking
BM	Power Supply for Selecting VHF Mid Band
BPF	Bandpass Filter
BS	Power Supply for Selecting VHF Super Band
BU	Power Supply for Selecting UHF Band
BU	Back-up
BUF.	Buffer Amplifier
B-YL	Battery

C	
C	Chroma
C (CHROMA)	Chrominance Signal
CAPST.	Capstan
CAS	Column Address Strobe
CARRI.	Carrier
CATV	Cable TV
C.BLANK	Chroma Blanking
C.BLK	Composite Blanking
CCD	Charge Coupled Device
CG	Character Generator
C.FG/CFG	Capstan Frequency Generater
C.FREE RUN	Chapstan Free Run
CH	Channel
CHD	Camera Horizontal Drive Pulse
CHAR.	Character
CHROMA	Chrominance
C.MEMORY	Counter Memory
CNR	Chroma Noise Reducer
COM.	Common
COM.	Composite
COMPA	Comparator
COMPE	Compensator
COMPO	Composite
COMP-EXP	Compressor-Expander
CONV.	Converter
CONT	Control
CORR.	Correlation
COUNT.	Counter
CP	Clamp Pulse
C.PAUSE	Camera Pause
C/R	Capacitor/Resistor
C.RESET	Counter Reset
C.REVERSE	Count Reverse
CST	Cassette

C	
C.SYNC	Composite Synchronizing Signal
CTL	Control Track Pulse (Control)
CYL	Cylinder
CY (CYAN)	Color Signal CYAN

D	
DA	Double Azimuth
D/A	Digital to Analog Converter
D-D	Direct Drive
DEEMPHA.	Deemphasis
DEF	Deflection
DEMOD.	Demodulator
DEMPX	Demultiplexer
DET	Detector
DIFF. AMP	Differential Amplifier
DISCRI.	Discriminator
DISP.	Display
DL	Delay Line
DN	Down
DO	Dropout
DOC	Dropout Compensator
DRAM	Dynamic Random Access Memory
D.REF 25/30	Delayed Reference 25/30Hz
D.SW 25/30	Delayed Switching 25/30Hz
DSP	Digital Signal Processor
DT/OE	Data Transfer/Output Enable
D/W	Dark/White
DWC	Delayed Write Clock

E	
EA-ROM	Electrically Alterable Read Only Memory
E-E	Electronic-to-Electronic
EMPHA.	Emphasis
EQ	Equalizer
EVF	Electronic Viewfinder
EXT.	External

F	
F.ADV	Frame Advance
F/V	Frequency-to-Voltage Converter
FB	Feed Back
FF	Flip Flop
F.FWD	Fast Forward
FG	Frequency Generator
FM	Frequency Modulation
FREQ.	Frequency
FRAME ADV	Frame Advance
Fsc	Color Sub Carrier Frequency
FWD	Forward

G	
GEN	Generator
GND	Ground

H	
H	Horizontal
HBF	Horizontal Burst Flag
HD	Horizontal Drive
Hi-Fi	High Fidelity
HLT	Halt
HPF	High-pass Filter
HPL	High-pass Limiter
HSS	Horizontal Sync. Separator

I	
IF	Intermediate Frequency
INC	Row Counter Increment
INDI.	Indicator
INT.	Internal
INV.	Inverter
I/O	In/Out (Input/Output)
IR	Infrared Rays
IRIS DET	Iris Detection
IRT	Instant Recording Timer

L	
LCD	Liquid Crystal Display
LIN.	Linear
LM	Loading Motor

L	
LNC	Line Noise Canceller
LOG	Logarithm
LP	Long Play
LP (H)	Long Play Signal (Active High)
LPF	Low-pass Filter
LUMA	Luminance
L/R	Left/Right
M	
MAN	Manual
M.BRAKE	Main Brake
M.CUT	Monitor Cut
MEM.	Memory
MEM ON	Memory ON
MEM SW	Memory Switch
MEM VIDEO	Memorized Video
MIX	Mixer
MMV	Monostable Multivibrator
MOD.	Modulator
MPX	Multiplex
MPX VIDEO	Multiplexed Video
M.STATE	Mechanism State
M.STOP	Memory Stop
MTS	Multi Channel Television Sound
N	
NEG	Negative
NFB	Negative Feed Back
NORM. or NOR.	Normal
NR	Noise Reduction
O	
OB	Optical Black
O/E	Odd/Even Field
OSC	Oscillator
OSD	On-Screen Display
P	
PB/PLAY	Playback
P.CONT	Power Control
PIF	Picture Intermediate Frequency
PG	Pulse Generator
P IN P	Picture in Picture
PIX MOVE	Picture Move
PLL	Phase Locked Loop
POS.	Positive
POWER CONT.	Power Control
PROG.	Program
PROTECT.	Protector
PWM	Pulse Width Modulation
R	
R (RED)	Color Signal RED
RAM	Random Access Memory
RAS	Row Address Strobe
RC	Reading Clock
RCC	Reading Clock Clear
RCR	Row Counter Reset
REC	Record
RECT.	Rectifier
REF	Reference
REF 25/30	Reference 25/30Hz from servo circuit
REG	Regulator
REL	Refresh Control
REW	Rewind
REV	Reverse
RF	Radio Frequency
RM	Reel Motor
ROM	Read Only Memory
R-YL	Color Difference Signal R-YL
S	
SAP	Second Audio Program
SAW	Sawtooth
SC	Serial Control
SC1 (0°)	3.58MHz Subcarrier Signal 1 (0-degree Phase Shifted)

S	
SC2 (90°)	3.58MHz Subcarrier Signal 2 (90-degree Phase Shifted)
SEP.	Separator
SG	Signal Generator
S/H	Sample and Hold
SIF	Sound Intermediate Frequency
SOL	Solenoid
SP	Standard Play
SP/LP	Standard Play/Long Play
S.REEL	Supply Reel Sensor
SRCH	Search
SRV	Servo
STABI.	Stabilizer
S.TRACK	Slow Tracking
STBY	Standby Mode
S-VHS	Super VHS
SW 15Hz	15Hz Head Switching Pulse
SW 25/30Hz	25/30Hz Head Switching Pulse
SYNC	Synchronizing signal
SYS.CON	System Control
T	
T (TELE)	Telephoto Angle
T.BRAKE	Take-up Brake
T/L	Tuner/Line
TP	Test Point
T.REEL	Take-up Reel Sensor
T.RESET	Timer Reset
TRS	Transfer
TμP	Timer Microprocessor
TU-μP	Tuning Microprocessor
U	
U/D	Up/Down
UNI.	Unified
V	
V (VERT)	Vertical
VAR	Variable
V.AGC	AGC Voltage
VCA	Voltage Controlled Amplitier
VCO	Voltage Controlled Oscillator
V.DRV	Vertical Drive Pulse
V.DUB	Video Dubbing
V/F	Voltage to Frequency Converter
VHS	Video Home System
VF	Focus Voltage
VOL.	Volume
V-REF	Voltage Reference
VP	Vertical Pulse
VSS	Vertical Sync. Separator
Vss	Voltage Super Source
VT	Tuning Voltage
VT-U	Tuning Voltage-UHF
VT-V	Tuning Voltage-VHF
VCXO	Voltage Controlled Crystal Oscillator
W	
WC	Write Clock
WCC	Write Clock Clear
WE	Weighting
WHT	Color Signal WHITE
WIDE	Wide Angle
WHD	Wide Horizontal Drive
WHT BAL CONT.	White Balance Control
Y	
Y	Luminance Signal
Y/C	Luminance/Chrominance
YE (YEL)	Color Singal YELLOW
YL	Luminance Signal (Low Component)
ANOTHER	
μP	Microprocessor
5V	ON 5V B+ Source
9V	ON 9V B+ Source

LEADLESS (CHIP) COMPONENT IDENTIFICATION

1. Leadless Transistor

The part name of a leadless transistor is indicated by a code on its surface, using one letter, one letter and one numeral, two letters, two letters and one numeral, two numerals, two numerals and one letter, three letters, or four letters.

Note: There are transistors with the same code but differnt part names, or with the same part name but different codes. Refer to the parts lists to finally identify a transistor.

CODE	PART NAME	CODE	PART NAME
Leadless (Chip) Transistor			
3925	2SC3925	BR	2SC2412K
1CQ	2SB902	BR	2SC4617
1D	2SC3127	BS	2SC2412K
1DS	2SD1328S	C-7	2SA811
1DT	2SD1328	C1G	KSC1623
1R	2SB970TX	CB	2SC3646
2BQ	2SK374PQ	CC	2SA1122C
2BR	2SK374QR	CC	2SC3647T
2Y	2SC3757	CC	2SC3647
2YQ	2SC4691	CD	2SA1122D
3N	2SK620	CE	2SA1122E
4N	XN5601	CK	2SD999
4Q	XN1B301	CP	2SC4097
4R	XN1C301	CQ	2SC2411K
5C	XN4601	CR	2SB710
5C	XP4601	CR	2SC2411
5H	XP4501	CR	2SB1219
5H	XN4501	D16	2SC1622A
5K	XP4401	D17	2SC1622A
5K	XN4401	D18	2SC1622A
5L	XN5501	DB	2SD1766
5N	XN6501	DE	2SC2463
50	XN6401	DF	2SD1623
5R	XP1501	DF	2SD1898
5R	XN1501	DG	2SD1624
5S	XN1504	DK	2SB798
5V	XN1401	EC	2SA1022
5W	XN2501	F-2	2SC1009F2
5X	XN4504	F-3	2SC1009F3
7R	XN2401	F-4	2SC1009F4
7S	XN1601	FC	2SC2619
AA	2SD1757K	FR	2SA1774
AKQ	2SA1738	FR	2SA1037K
AKQ	2SA1806	FR	2SA1576R
AL	2SA1791	FS	2SA1037K
AM	2SC4656	GC	2SC2734
AO	2SB709AQR	GM	3SD1615
AQ	2SB709AQ	HQ	2SA1036K
AQ	2SB766	IC	2SC3016
AR	2SB1462	IRD	2SA1484
AR	2SB766	IS	2SB792S
AR	2SB709ARS	IT	2SB792T
AR	ASB1218R	L-4	2SC1623L4
AS	2SB766	L-5	2SC1623L5
AS	2SB709AS	L-6	2SC1623L6
B3	2SC1621B3	L-6	2SC2812L6
B4	2SC1621B4	L-7	2SC2812L7
BC	2SB1188	L5	MMBC1623L5
BD	2SB1121	L6	MMBC1623L6
BE	2SB1260	LB	2SC2462B
BF	2SB1123	LC	2SC2462C
BF	2SB1308	LD	2SC2462D
BG	2SB1124	LR	2SC2412KLN
BH	2SB1001	M-5	2SA812
BQ	2SB709A	M-6	2SA1179
BR	2SC4081R	MC	2SA1052MC

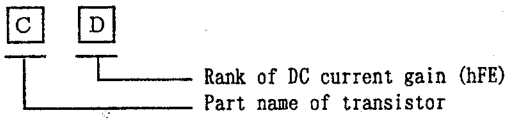
CODE	PART NAME	CODE	PART NAME
Leadless (Chip) Transistor			
MD	2SA1052MC-D	ZS	2SD874S
N3	2SC1653	VR	2SD968A
ND	2SD1306ND	W1	FMW1
NE	2SD1306NE	W10	FMW10
PD	2SA1171D	W2	FMW2
PS	2SD814	W3	FMW3
QB	2SC2620QB	WR	2SD602
QC	2SC2620QC	X1	UMX1
QO	2SC2714	X1	IMX1
R22	2SC4226	X2	IMX2
R22	2SC3356	Y1	FMY1
R32	2SC4227	Y12	2SA1464
R34	2SC3583	Y25	NTM3906
R42	2SC3585	Y3	FMY3
RB	2SC2618RB	YCD	2SK197
RC	2SC2618RC	YI	2SA1666
RK	2SC3357	YQ	2SD601YQ
S1	FMS1	YR	2SD601YR
S2	FMS2	YR	2SD1819R
SC	2SA1121	YR	2SD2216
SO	2SA1162	YS	2SD601YS
SP	2SC3082K	Z1	IMZ1
T1	IMT1	Z2	IMZ2
T1	UMT1	ZO	2SD874T
T2	IMT2	ZQ	2SD601A
UD	2SC2404	ZR	2SD874R
Digital Transistor			
3	DTC143TK	6C	UN9113
4	DTC114TK	6S	XP4113
6	DTC144TK	8B	UN5212
13	DTA143EK	8C	UN9213
14	DTA144EK	8C	UN2213
15	DTA124K	8S	XP4213
15	DTA124EU	9L	XP1213
16	DTA144EU	9L	XN1213
16	XDA144EK	A1	FMA1
16	DTA144EE	A1	UMA1
23	DTC143EK	A2	FMA2
24	DTC114EU	B2	UMB2
24	DTC144EK	B2	IMB2
25	DTC124EU	C2	FMC2
25	DTC124K	C5	FMC5
26	DTC144EE	D2	IMD2
26	DTC144EU	F52	DTB123
26	XDC144EK	G1	FMG1
33	DTA143XK	G2	FMG2
43	DTC143XK	G21	DTD113ZK
52	DTA123YK	G5	FMG5
60	UN511F	H03	DTC343TK
64	DTC114YK	H2	IMH2
80	UN521F	H2	UNH2
4P	XN1A312T	H27	DTC363EK
6B	UN5112	R04	KSR1104
6C	UN2113	R31	FP1L2Q
FET			
30	2SK621	WS	2SK322T
1FQ	2SK321FQ	WT	2SK322T
1FR	2SK321FQR	X15	2SK425
1KP	2SK316	X4	2SK94
2BQ	2SK663	XAF	2SK980FG
DY	2SK1579	YC	2SK197YC
JO	2SK208	YD	2SK197YD
K	3SK166	YE	2SK197YE
K4	2SK160K4	ZD	2SK217ZD
K5	2SK160K5	ZE	2SK217ZE
KB	2SK323		

(1) Identification with two letters

Use this code and the following chart for transistor identification.

Example :

Code	Part name
CD	2SA1122D
LD	2SC2462D

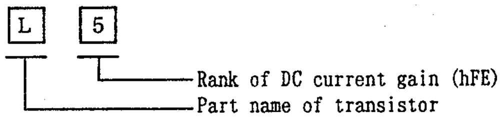

C
D
Rank of DC current gain (hFE)
Part name of transistor

(2) Identification with one letter and one numeral

Use this code and the following chart for transistor identification.

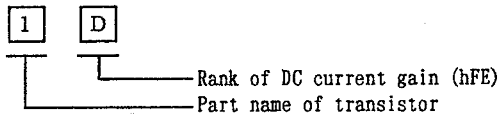
Example :

Code	Part name
L5	2SC1623(5)
L6	2SC1623(6)


L
5
Rank of DC current gain (hFE)
Part name of transistor

Example :

Code	Part name
1D	2SC3127D


1
D
Rank of DC current gain (hFE)
Part name of transistor

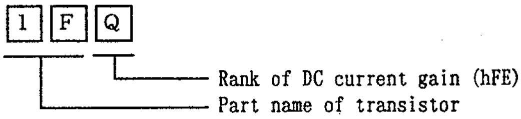
Note: Codes S1,S2,T1,W1,W2,W3,X1,Y1,Y3,Z1 and Z2 encode only the part names.

(3) Identification with one numeral and two letters

Use this code and the following chart for tarnsistor identification.

Example :

Code	Part name
1FQ	2SK321Q

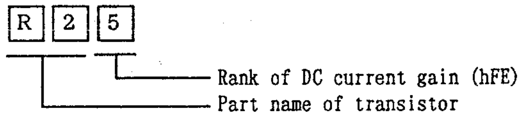

1
F
Q
Rank of DC current gain (hFE)
Part name of transistor

(4) Identification with one letter and two numerals

Use this code and the following chart for transistor identificaion.

Example :

Code	Part name
R25	25C3356

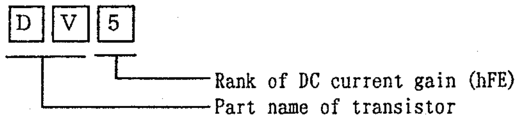

R
2
5
Rank of DC current gain (hFE)
Part name of transistor

(5) Identification with to letters and one numeral

Use this code and the following chart for transistor identification.

Example :

Code	Part name
DV5	2SD596

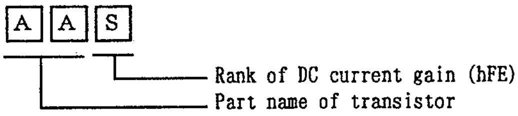

D
V
5
Rank of DC current gain (hFE)
Part name of transistor

(6) Identification with three letters

Use this code and the following chart for transistor identification.

Example :

Code	Part name
AAS	2SD1757KS


A
A
S
Rank of DC current gain (hFE)
Part name of transistor

2 . Leadless Diode

The part name of a leadless diode is indicated by a code on the surface, using one letter and one numeral, two letters, two letters and one numeral, two numerals and one letter, or three numerals. Use this code and the following table to identify the part name of a diode.

Note: Refer to the parts lists to finally identify a diode.

CODE	PART NAME	CODE	PART NAME
Diode			
0	HVU300A	3D	RB715F
1.0	1SV201	3.0L	MA3030L
2.0	MA3020	3.6L	MA3036L
5.1	MA3051L	3.9L	MA3039L
5.1	MA3051M	4.3H	MA3043H
6.8	MA3068	4.3L	MA3043L
6.8	MA3068M	4.3M	MA3043M
7.5	MA3075L	4.7L	MA3047L
8.2	MA3082M	4.7M	MA3047M
9.1	MA3091	5.1H	MA3051H
20	HZM6	5.1L	MA3051L
24	1SV221	5.1M	MA3051M
27	RD2.7M B	5.6M	MA3056M
30	RD3.0M B	6.2L	MA3062L
51	RD5.1M B2	6.2M	MA3062M
56	RD5.6M B	6.8H	MA3068H
91	RD9.1M B	6.8L	MA3068L
102	RD10M B2	6.8M	MA3068M
122	RD12M B2	6.8M	MA3068
163	RD16M B3	7.5H	MA3075H
182	RD10M B2	7.5L	MA3075L
271	RD2.7M B	8A	UN221D
272	D2.7M B2	8.2H	MA3082H
301	RD3.0M B	8.2M	MA3082M
362	D3.6M B2	9.1M	MA3091M
391	D3.9M B1	9.1M	MA3091
512	RD5.1M B2	10L	MA3100L
561	RD5.6M B	10M	MA3100M
621	RD6.2M B1	11L	MA3110L
681	RD6.8M	12M	MA3120M
683	RD6.8M B3	13H	MA3130H
911	RD9.1M B	18M	MA3180M
2.7H	MA3027H	36M	MA3360
Zener Diode			
1A	MA110	M3A	MA199
A3	1S2835	MC	MA153
A4	HSM2836C	MC	MA143
A5	1S2837	MH	MA141K
A6	HSM2838C	MH	MA151K

CODE	PART NAME	CODE	PART NAME
Zener Diode			
B	SB0505CP	MH	MA152K
B64	SFPB64	MI	MA132K
B74	SFPB74	MN	MA141WA
BE	1SV172	MN	MA152WK
C1	HSM88S	MN	MA151WA
C2	HSM276S	MO	MA132WA
C3	1SS226	MO	MA152WA
C4	HSM88WK	MP	MA133
F7	KV1470	MT	MA151WK
H5	HVM14	MT	MA141WK
J	SB07-03C	MU	MA132WK
K	DA221	MU	MA151WA
M1A	MA159	N	DAN222
M1C	MA158	N	DAN202T
M1M	MA721	NU	MA152WK
M1N	MA713DAT	P	DAP202T
M1P	MA714	S4	D1FS4
M2A	MA122	SA	SB10-05P
M2B	MA123	Z	DA106K

3. Leadless Resistor

The resistor value is indicated on its surface, using three numerals, or one letter and one numeral.

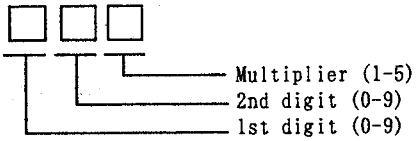
(1) Identification with three numerals

Read this code following the same procedure as when reading the color code on discrete resistors.

Example :

code	value
330	33 X 10^0 = 33 ohms
561	56 X 10^1 = 560 ohms
123	12 X 10^3 = 12K ohms
1R2	1 + 0.2 = 1.2 ohms

(R : Decimal point)



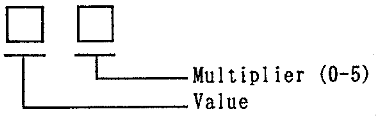
(2) Identification with one letter and one numeral

Use this code and the following chart for resisitor identification.

Letter	Value	Letter	Value	Letter	Value
A	1	J	2.2	S	4.7
C	1.2	L	2.7	U	5.6
E	1.5	N	3.3	W	6.8
G	1.8	Q	3.9	Y	8.2

Example :

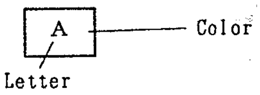
code	value
A1	1 X 10^1 = 10 ohms
G2	1.8 X 10^2 = 180 ohms
L3	2.7 X 10 ^{3}= 2700 ohms
S4	4.7 X 10^4 = 47K ohms
W5	6.8 X 10^6 = 680K ohms



4. Leadless Capacitors

The capacitor value is indicated on its surface, using body color and one letter, or one letter and one numeral.

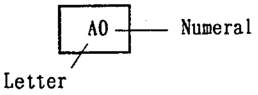
(1) Identification with body color and one letter



Body Color	Letter	Value	Body Color	Letter	Value
Red	A	1(PF)	Blue	A	100(PF)
	C	2		C	120
	E	3		E	150
	G	4		G	180
	J	5		J	220
	L	6		L	270
	N	7		N	330
	Q	8		Q	390
	S	9		S	470
Black	A	10(PF)		U	560
	C	12		W	680
	E	15		Y	820
	G	18	White	A	0.001(μF)
	J	22		E	0.0015
	L	27		J	0.0022
	N	33		L	0.0027
	Q	39		N	0.0033
	S	47		S	0.0047
	U	56		W	0.0068
	W	68	Green	A	0.01(μF)
	Y	82		E	0.015
				J	0.022
				N	0.033
				S	0.047
				U	0.056
				W	0.068
				Y	0.082
			Yellow	A	0.1(μF)

Example : Color	Letter	Value
Red	A	1PF
Black	A	10PF

(2) Identification with one letter and one numeral



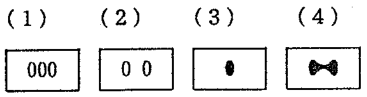
Letter/Numeral	Value	Letter/Numeral	Value
A0	1(PF)	A2	100(PF)
H0	2	C2	120
M0	3	E2	150
d0	4	G2	180
f0	5	J2	220
m0	6	L2	270
n0	7	N2	330
t0	8	Q2	390
y0	9	S2	470
A1	10(PF)	U2	560
C1	12	W2	680
E1	15	Y2	820
G1	18	A3	0.001(μF)
J1	22	E3	0.0015
L1	27	J3	0.0022
N1	33	N3	0.0033
Q1	39	S3	0.0047
S1	47	W3	0.0068
U1	56	A4	0.01(μF)
W1	68	E4	0.015
Y1	82	J4	0.022
		N4	0.033
		S4	0.047
		U4	0.056
		W4	0.068
		A5	0.1

Example :

Letter/Numeral	Value
A0	1PF
A1	10PF

5. Leadless Jumper

The leadless jumper is indicated as shown below.



CHAPTER 2

DISASSEMBLY

1. NAMES AND LOCATIONS OF CIRCUIT BOARDS

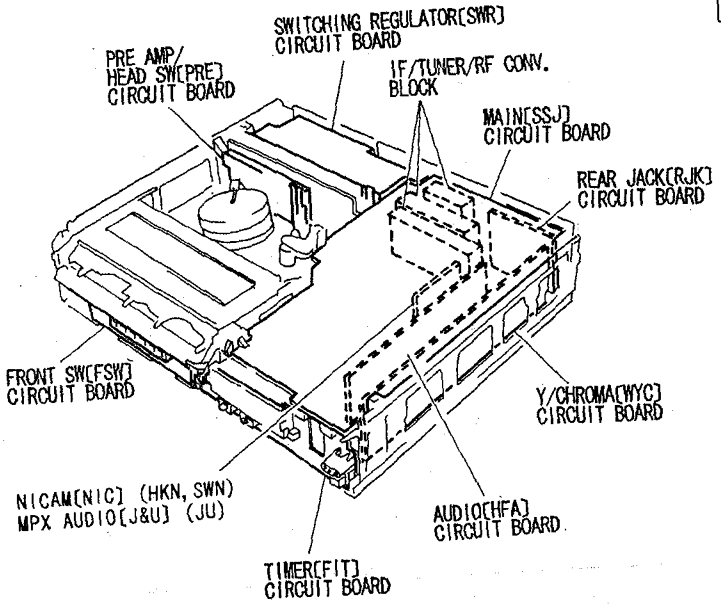

SWITCHING REGULATOR[SWR]
CIRCUIT BOARD
PRE AMP/
HEAD SW[PRE]
CIRCUIT BOARD
IF/TUNER/RF CONV.
BLOCK
MAIN[SSJ]
CIRCUIT BOARD
REAR JACK[RJK]
CIRCUIT BOARD
FRONT SW[FSW]
CIRCUIT BOARD
Y/CHROMA[WYC]
CIRCUIT BOARD
NICAM[NIC] (HKN, SWN)
MPX AUDIO[J&U] (JU)
AUDIO[HFA]
CIRCUIT BOARD
TIMER[FIT]
CIRCUIT BOARD

Fig. 1-1 Top View

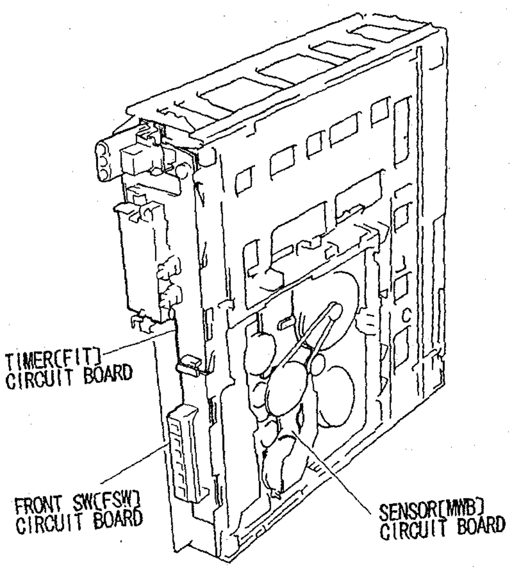

TIMER[FIT]
CIRCUIT BOARD
FRONT SW[FSW]
CIRCUIT BOARD
SENSOR[MWB]
CIRCUIT BOARD

Fig. 1-2 Bottom View

[Procedure when removing]
Remove the components in the order of letters (A, B, C …) in the illustrations.
[Procedure when reinstalling]
Reinstall the components by the reverse procedure to removal when not otherwise specified.

2. CASE REMOVAL

1. Top Cover

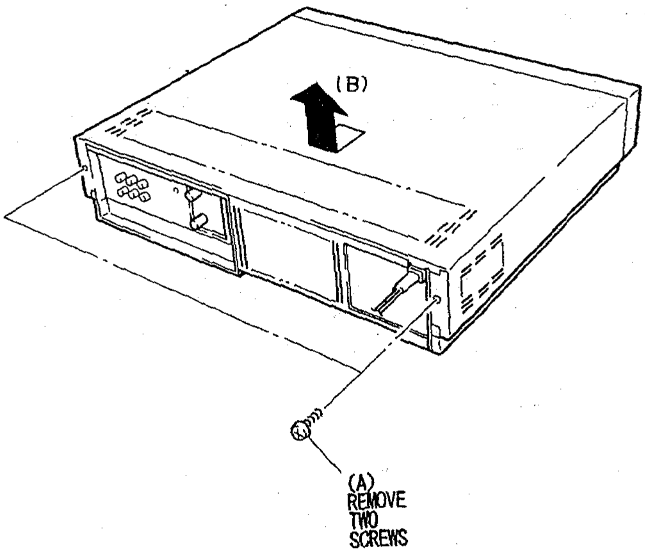

(B)
(A)
REMOVE
TWO
SCREWS

Fig. 2-1

2. Bottom Cover

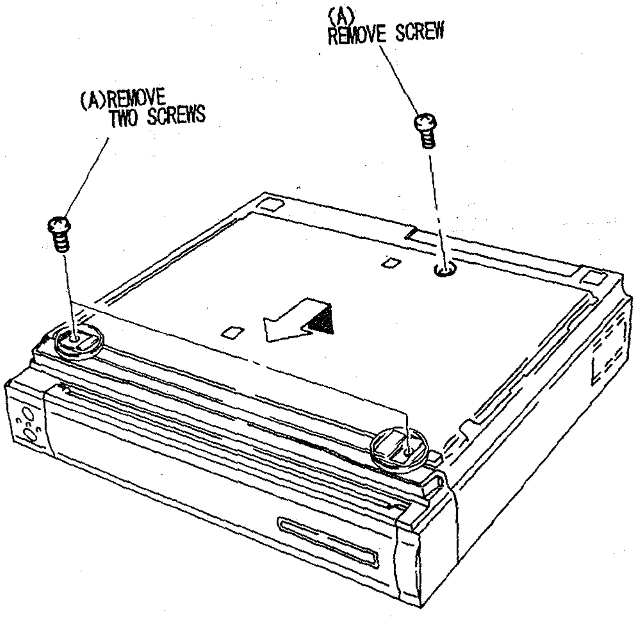

(A)
REMOVE SCREW
(A)REMOVE
TWO SCREWS

Fig. 2-2

3. Front Panel

◆ Components to remove first

1) Top Cover (Item 2-1)
2) Bottom Cover (Item 2-2)

◆ Caution when reinstalling

- Reinstall the front panel while the cassette door is pushed in halfway so that the boss of door actuating arm can be positively engaged with the recess on the side of the door as shown below.

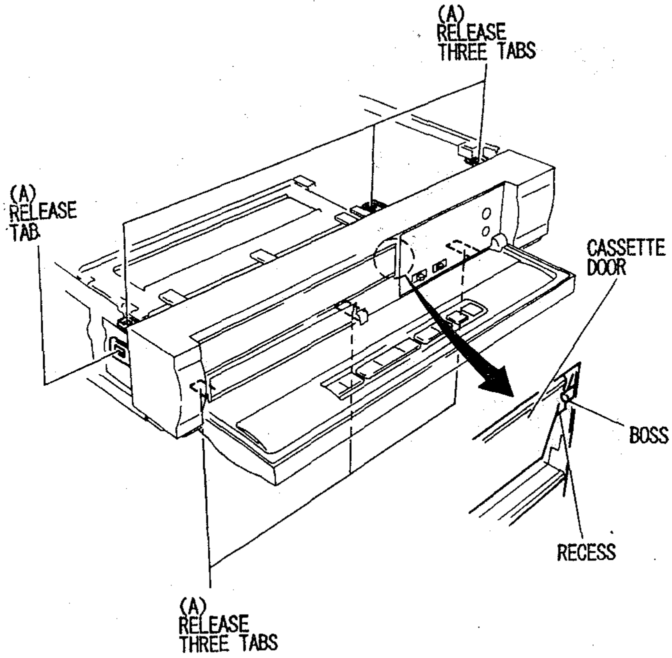

(A) RELEASE THREE TABS
(A) RELEASE TAB
CASSETTE DOOR
BOSS
RECESS
(A) RELEASE THREE TABS

Fig. 2-3

4. Cassette Door

◆ Components to remove first

1) Front Panel (Item 2-3)

◆ Caution when reinstalling

- Attach the spring at the right of the cassette door firmly.

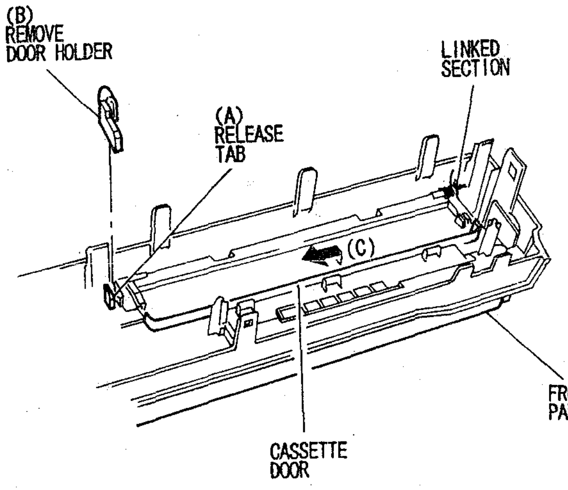

(B) REMOVE DOOR HOLDER
(A) RELEASE TAB
LINKED SECTION
(C)
FRONT PANEL
CASSETTE DOOR

Fig. 2-4

5. Rear Panel

◆ Components to remove first

1) Main circuit board (Item 3-3)

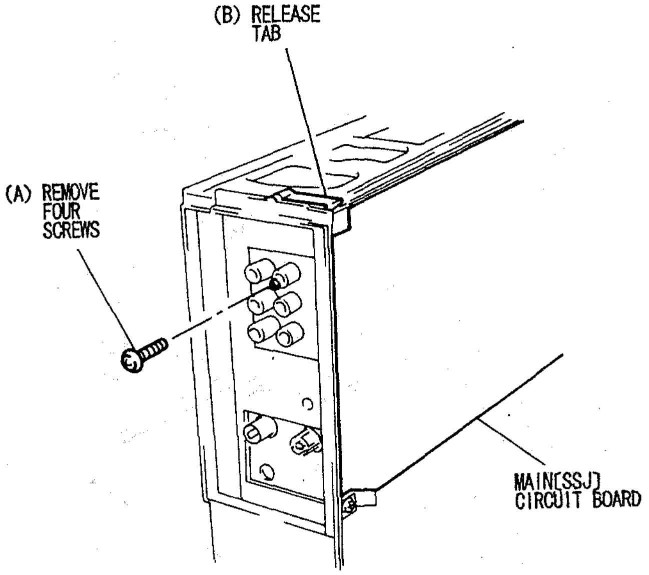

(B) RELEASE TAB
(A) REMOVE FOUR SCREWS
MAIN[SSJ] CIRCUIT BOARD

Fig. 2-5

3. CIRCUIT BOARD REMOVAL

1. Front Switch [FSW] / Timer [FIT] Circuit Boards

◆ Components to remove first

1) Front Panel (Item 2-3)

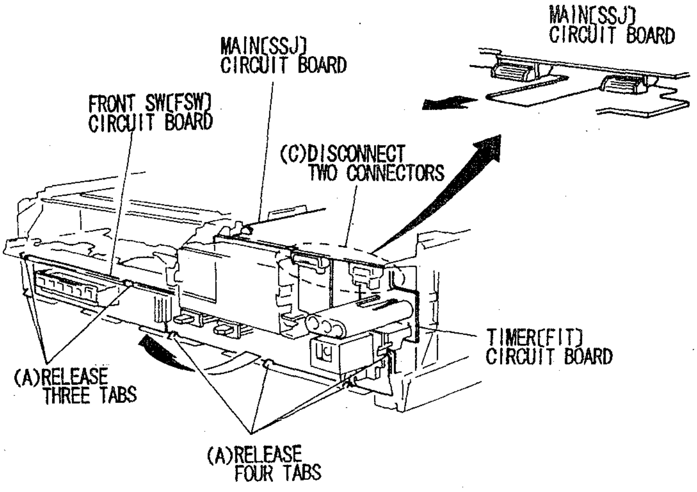

MAIN[SSJ] CIRCUIT BOARD
MAIN[SSJ] CIRCUIT BOARD
FRONT SW[FSW] CIRCUIT BOARD
(C)DISCONNECT TWO CONNECTORS
TIMER[FIT] CIRCUIT BOARD
(A)RELEASE THREE TABS
(A)RELEASE FOUR TABS

Fig. 3-1

2. Main [SSJ] Circuit Board

◆ Components to remove first

1) Front Switch [FSW] / Timer [FIT] circuit boards (Item 3-1)

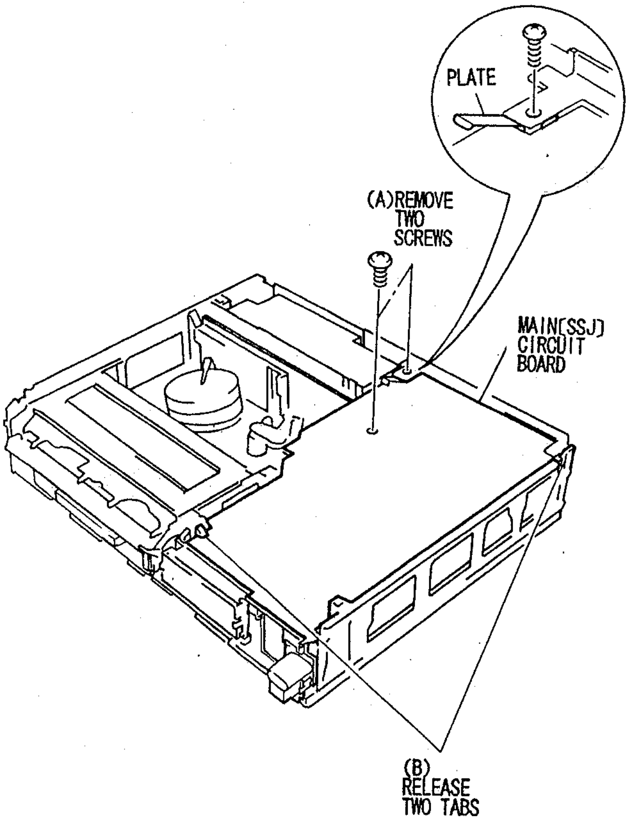


PLATE
(A)REMOVE TWO SCREWS
MAIN[SSJ] CIRCUIT BOARD
(B) RELEASE TWO TABS

Fig. 3-2

3. Y/Chroma [WYC], Audio [HFA] Circuit Boards

◆ Components to remove first

1) Front Switch [FSW] / Timer [FIT] circuit boards (Item 3-1)
2) Main [SSJ] circuit board (Item 3-2)

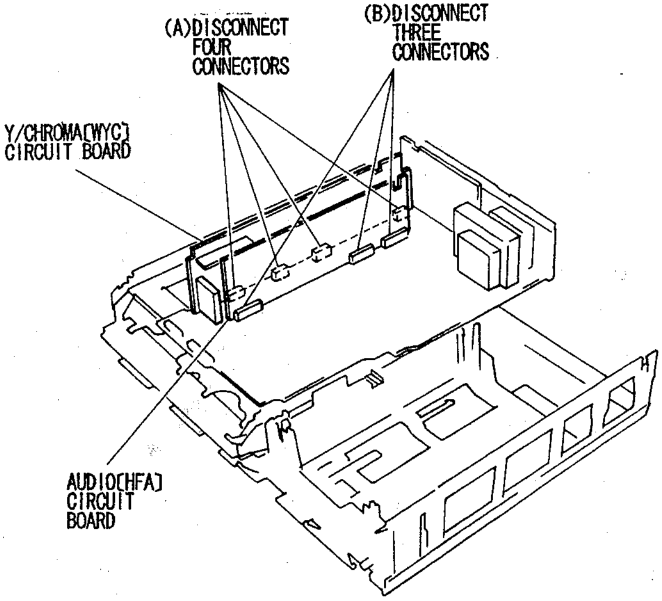

(A)DISCONNECT FOUR CONNECTORS
(B)DISCONNECT THREE CONNECTORS
Y/CHROMA[WYC] CIRCUIT BOARD
AUDIO[HFA] CIRCUIT BOARD

Fig. 3-3

4. AI / Y-Delay [YD],Skew [SKW] Circuit Boards

◆ Components to remove first

1) Front Switch [FSW] / Timer [FIT] circuit boards (Item 3-1)
2) Main [SSJ] circuit board (Item 3-2)
3) Y/Croma [WYC] circuit board (Item 3-3)

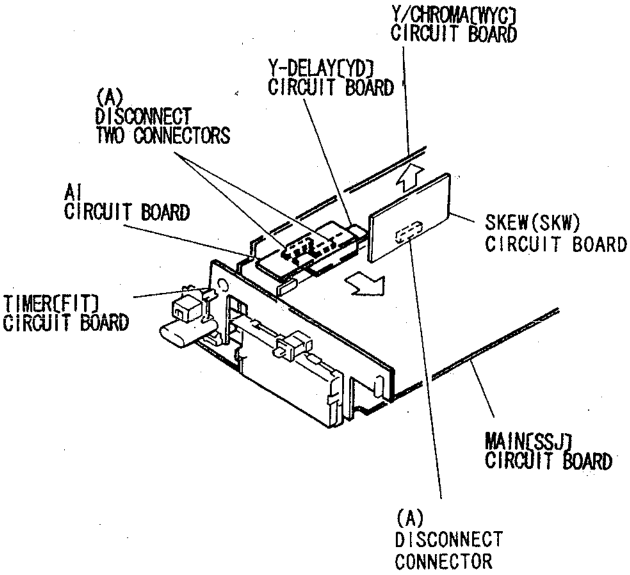

Y/CHROMA[WYC] CIRCUIT BOARD
Y-DELAY[YD] CIRCUIT BOARD
(A) DISCONNECT TWO CONNECTORS
AI CIRCUIT BOARD
SKEW(SKW) CIRCUIT BOARD
TIMER[FIT] CIRCUIT BOARD
MAIN[SSJ] CIRCUIT BOARD
(A) DISCONNECT CONNECTOR

Fig. 3-4

5. Nicam [NIC], MPX Audio [J&U] Circuit Boards

◆ Components to remove first

1) Front Switch [FSW] / Timer [FIT] circuit boards (Item 3-1)
2) Main [SSJ] circuit board (Item 3-2)

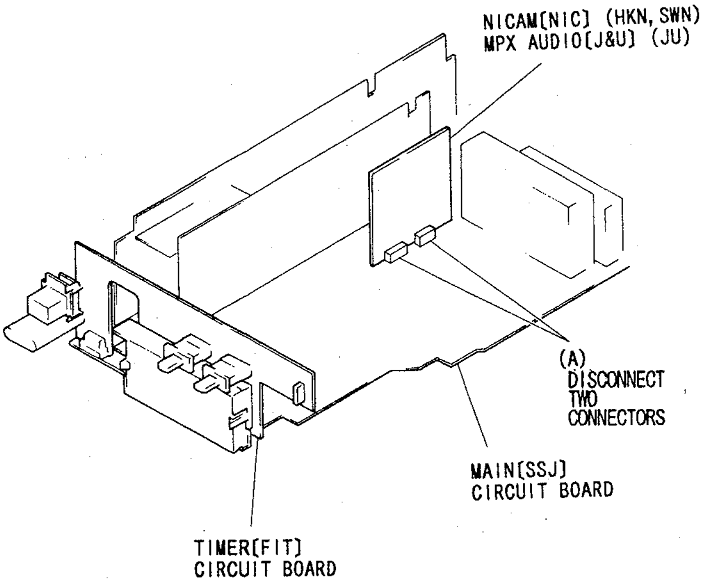

NICAM[NIC] (HKN, SWN)
MPX AUDIO[J&U] (JU)
(A)
DISCONNECT
TWO
CONNECTORS
MAIN[SSJ]
CIRCUIT BOARD
TIMER[FIT]
CIRCUIT BOARD

Fig. 3-5

6. Switching Regulator [SWR] Circuit Board
7. Pre-Amp/Head SW [PRE] Circuit Board

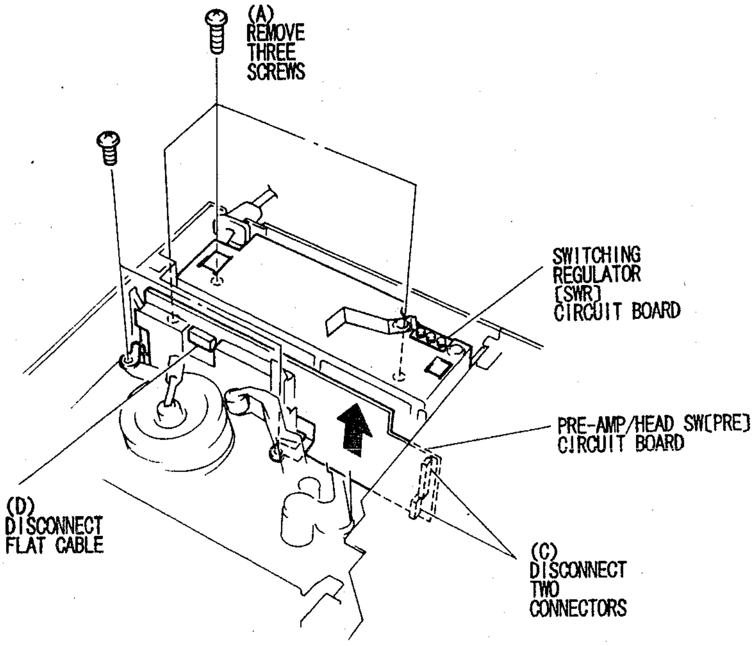

(A)
REMOVE
THREE
SCREWS
SWITCHING
REGULATOR
[SWR]
CIRCUIT BOARD
PRE-AMP/HEAD SW[PRE]
CIRCUIT BOARD
(D)
DISCONNECT
FLAT CABLE
(C)
DISCONNECT
TWO
CONNECTORS

Fig. 3-6

8. Rear Jack [RJK] Circuit Board

◆ Components to remove first

1) Front Switch [FSW] / Timer [FIT] circuit boards (Item 3-1)
2) Main [SSJ] circuit board (Item 3-2)

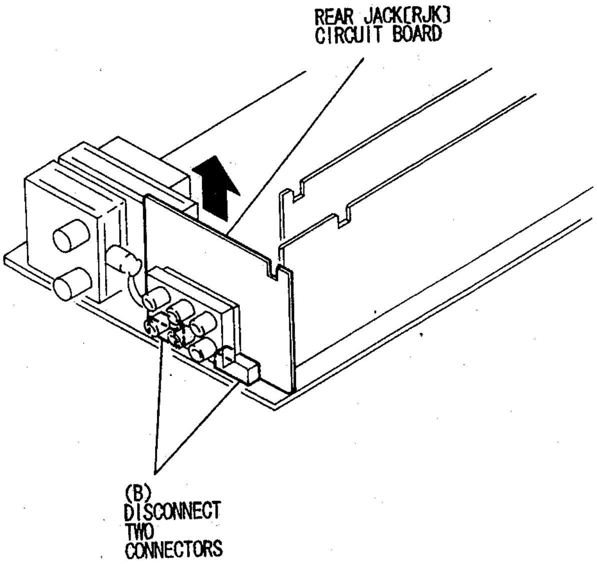

REAR JACK[RJK]
CIRCUIT BOARD
(B)
DISCONNECT
TWO
CONNECTORS

Fig. 3-7

9. Sensor Circuit Board

◆ Components to remove first
1) Centre Pulley/FL Relay Gear (B)
   (Item 6-16)
2) Roller Plate/Mode Gear (Item 6-18)

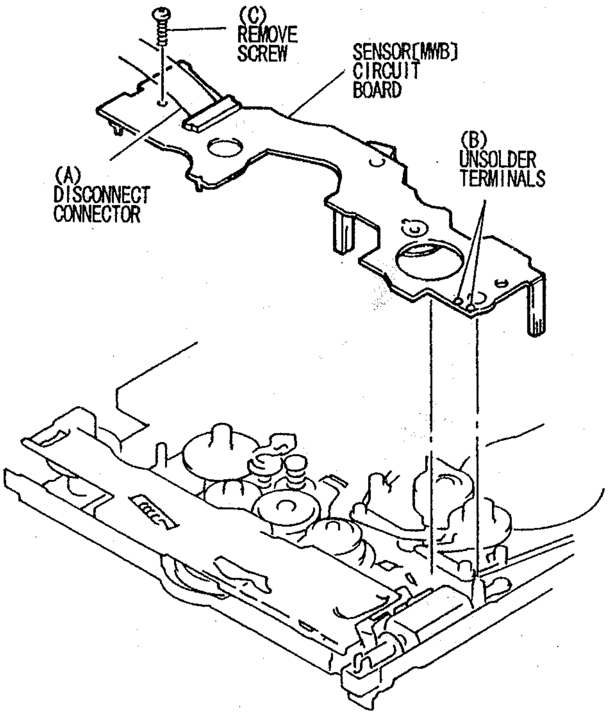
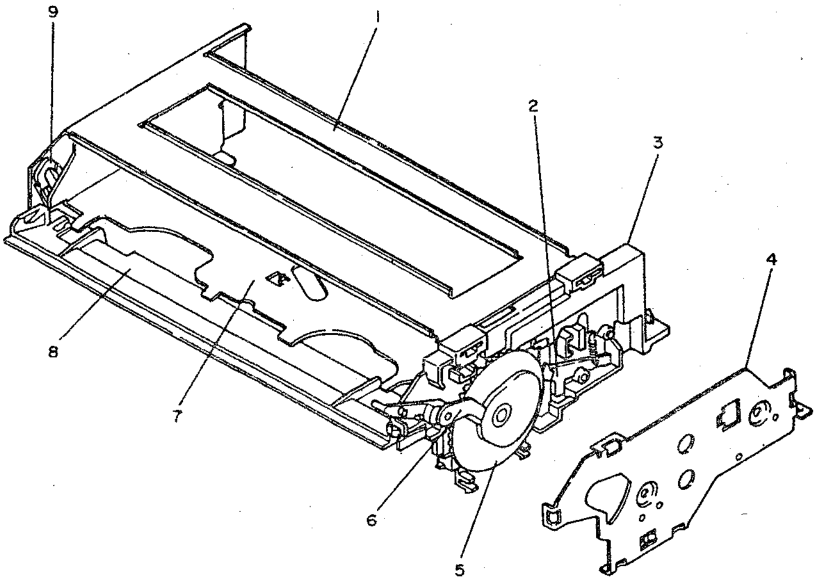

(C)
REMOVE
SCREW
SENSOR[MWB]
CIRCUIT
BOARD
(B)
UNSOLDER
TERMINALS
(A)
DISCONNECT
CONNECTOR

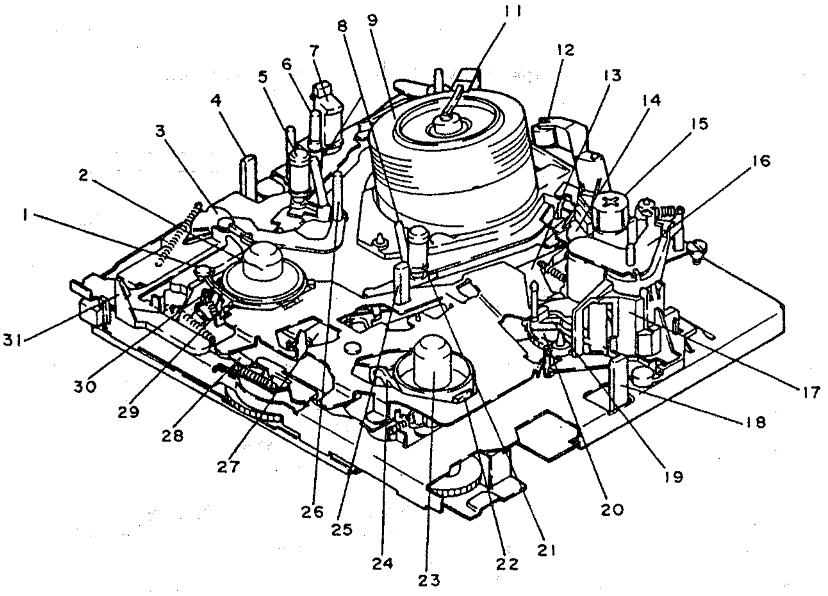
Fig. 3-10

4. IDENTIFICATIONS AND LOCATIONS OF MAIN MECHANICAL COMPONENTS



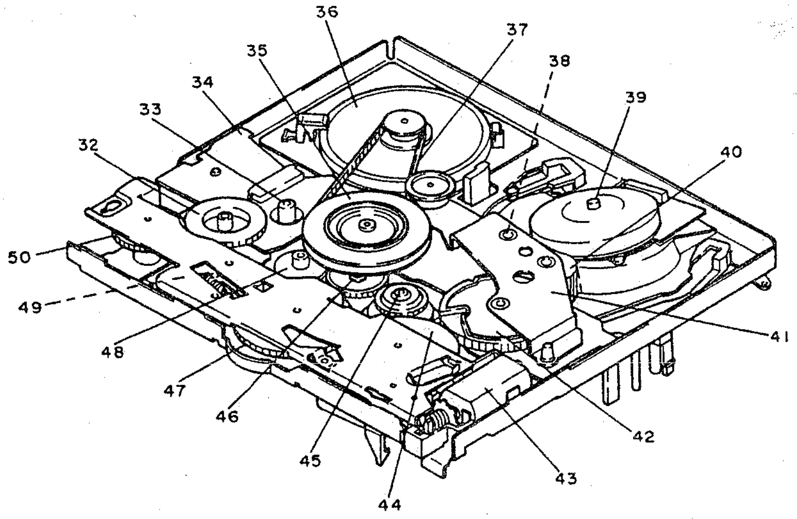
1. Chassis Holder
2. Switch Arm
3. Side Chassis
4. Gear Bracket
5. FL Gear
6. Door Arm
7. Cassette Holder
8. Front Holder
9. FL Drive Arm

Fig. 4-1 Cassette Loading Mechanism



1. Tension Drive Arm
2. Supply Reel Disk
3. Tension Arm
4. Supply End Sensor
5. Supply Guide Roller
6. Supply Guide Pole
7. Full Erase (FE) Head
8. Inclined Guides
9. Cylinder Motor Assembly
10. ———
11. Static Discharge Brush
12. Head Cleaning Arm Assembly
13. Fine Slow Brake Arm
14. Audio/Control (A/C) Head
15. Capstan Shaft Holder
16. Pressure Roller Assembly
17. Cassette Lid Opener
18. Take-up End Sensor
19. Middle Pole
20. Pressure Roller Drive Gear
21. Take-up Guide Roller
22. Take-up Sub Brake
23. Take-up Reel Disk
24. Take-up Main Brake
25. End LED
26. Tension Pole
27. Torque Change Arm
28. Supply Main Brake
29. Supply Sub Brake
30. Tension Band Assembly
31. Safety Arm

Fig. 4-2 Top View of Mechanism



32. FL Relay Gear (B)
33. FL Relay Gear (A)
34. Sensor Circuit Board
35. Centre Pulley
36. Capstan Motor Assembly
37. Drive Belt
38. Take-up Loading Gear
39. Cylinder Motor Assembly
40. Supply Loading Gear
41. Roller Plate
42. Mode Gear
43. Loading Motor
44. Cam Gear (A)
45. Reel Gear (L)
46. Reel Drive Idler
47. Cam Gear (B)
48. Reel Gear (R)
49. Latch Arm
50. FL Relay Gear (C)

Fig. 4-3 Bottom View of Mechanism

Be sure to remove cases, etc. before servicing the mechanism and replacing components, otherwise, the cases, etc. could be damaged.
(Procedure of disassembly)
Remove the parts in the order of letters (A,B,C ···) shown in the illustrations.
(Procedure of reinstallation)
Reinstall the parts by the reverse procedure to removal when no special cautions are given.

5. CASSETTE LOADING MECHANISM REMOVAL

1. Cassette Loading Mechanism

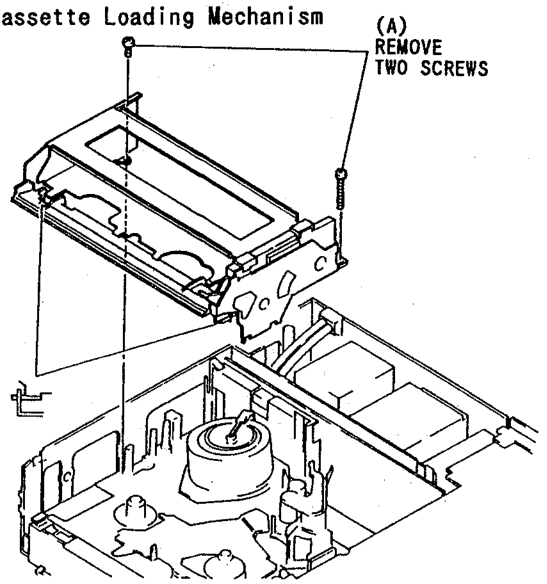

(A)
REMOVE
TWO SCREWS

Fig. 5-1

2. Side Gear Bracket, Chassis Holder, FL Drive Arm, Cassette Holder Assembly and Front Holder

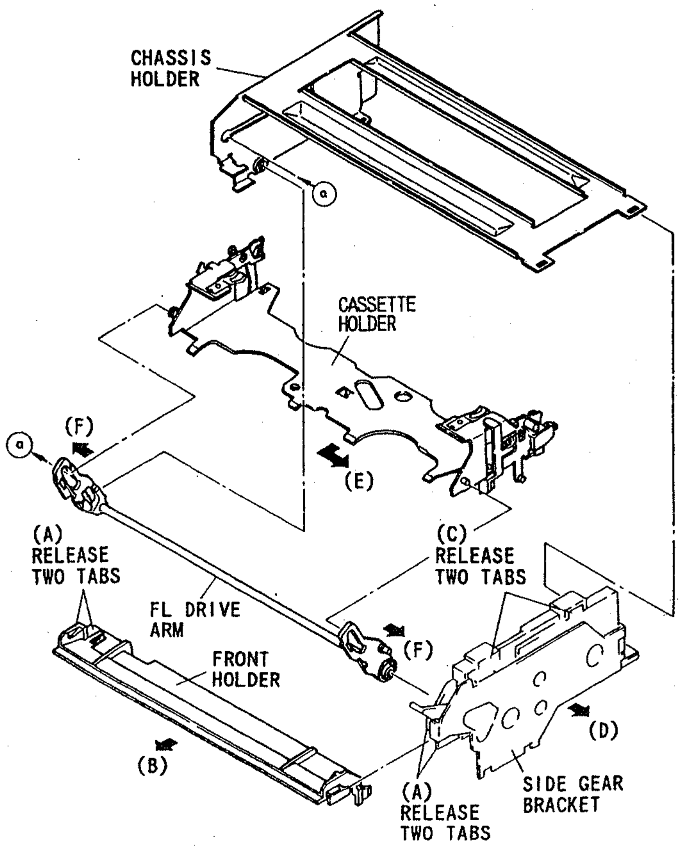

CHASSIS
HOLDER
ⓐ
CASSETTE
HOLDER
(E)
ⓐ
(F)
(A)
RELEASE
TWO TABS
FL DRIVE
ARM
FRONT
HOLDER
(B)
(C)
RELEASE
TWO TABS
(F)
(D)
(A)
RELEASE
TWO TABS
SIDE GEAR
BRACKET

Fig. 5-2

◆ Cautions when reinstalling

1) Check the insertions of 6 bosses.

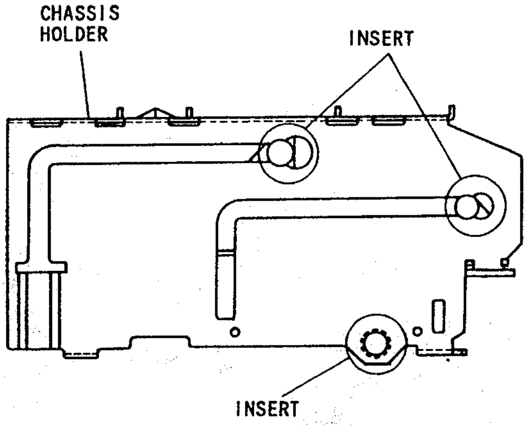

CHASSIS
HOLDER
INSERT
INSERT

Fig. 5-3

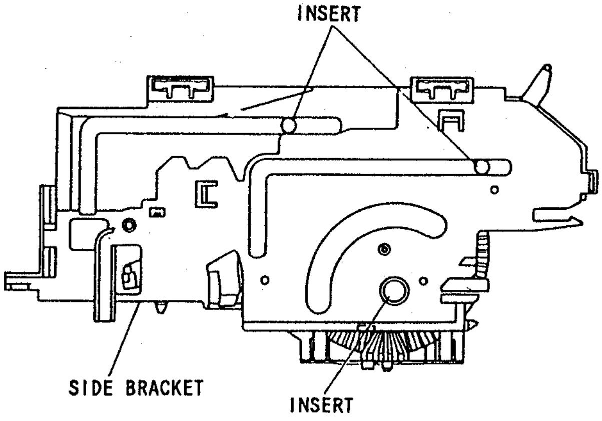

INSERT
SIDE BRACKET
INSERT

Fig. 5-4

3. Gear Bracket, Door Arm, FL Gears (A),(B) and Switch Arm

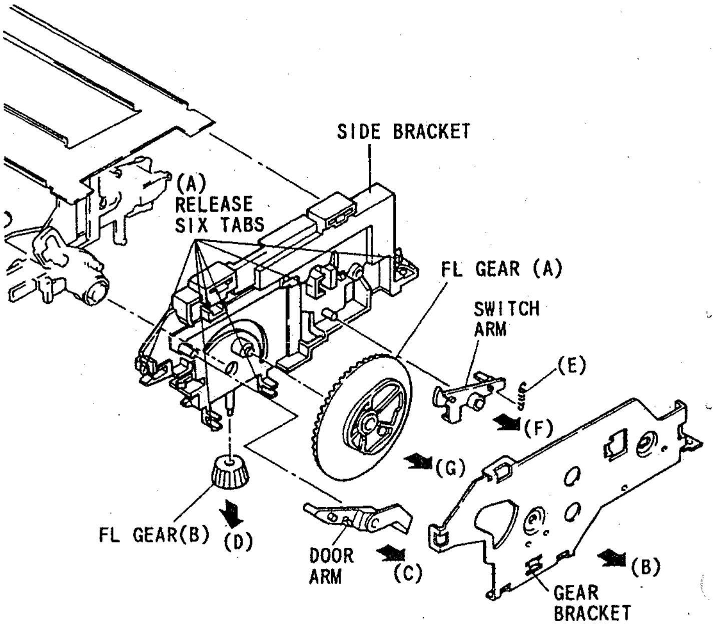

SIDE BRACKET
(A)
RELEASE
SIX TABS
FL GEAR (A)
SWITCH
ARM
(E)
(F)
(G)
FL GEAR(B)
(D)
DOOR
ARM
(C)
(B)
GEAR
BRACKET

Fig. 5-5

◆ **Cautions when reinstalling**

1) When reinstalling FL gear (A), align the hole in FL gear (A) and the hole in the side bracket.

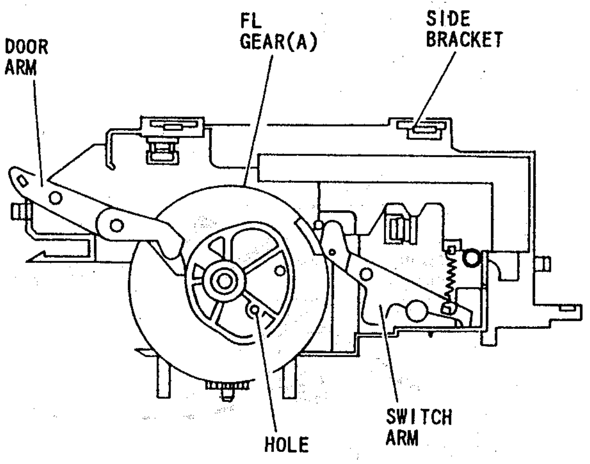

DOOR ARM
FL GEAR(A)
SIDE BRACKET
HOLE
SWITCH ARM

Fig. 5-6

6. MAIN MECHANICAL COMPONENTS REMOVAL

1. FE (Full Erase) Head

◆ **Caution when reinstalling**

1) Keep the surface of the FE head and supply guide pole which is in contact with the tape clean.

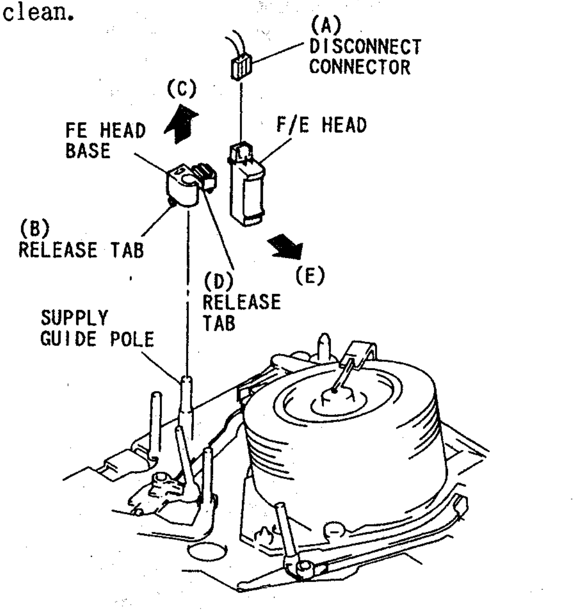

(A) DISCONNECT CONNECTOR
(C)
FE HEAD BASE
F/E HEAD
(B) RELEASE TAB
(D) RELEASE TAB
(E)
SUPPLY GUIDE POLE

Fig. 6-1

2. A/C (Audio/Control) Head

◆ **Cautions when reinstalling**

1) Hook the bottom of the spring under the head base to the chassis and the top to the stopper of the head base.
2) Keep the surface of the A/C head which is in contact with the tape clean.

◆ **Adjustments after reinstalling**

1) A/C (Audio/Control) Head Adjustment
2) X-Value Adjustment
3) Audio Bias Level Adjustment

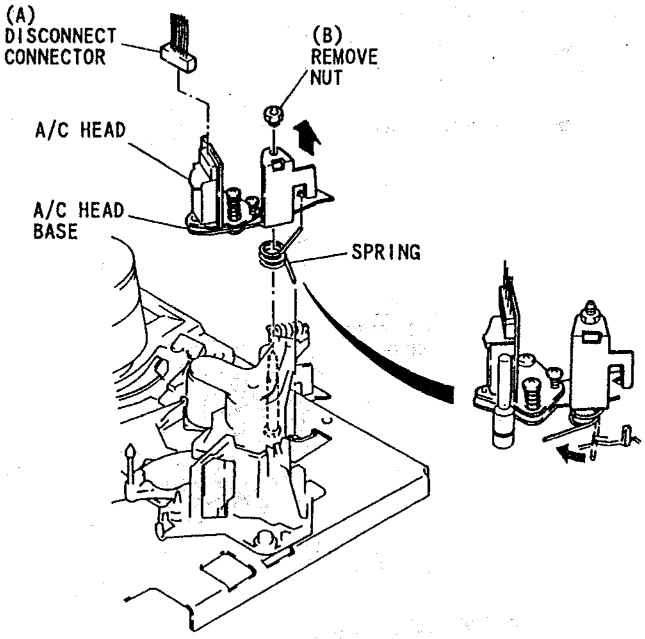

(A) DISCONNECT CONNECTOR
(B) REMOVE NUT
A/C HEAD
A/C HEAD BASE
SPRING

Fig. 6-2

3. Upper Cylinder (Video Heads) and Head Cleaning Bracket Assembly

◆ **Cautions during work**

1) Pull out the upper cylinder vertically to the cylinder attachment direction.
2) Do not touch video head tips.

◆ **Cautions when reinstalling**

1) Put the hole in the upper cylinder onto the pole of the lower cylinder.
2) Tighten the two upper cylinder retaining screws alternately.

◆ **Adjustment after reinstalling**

1) Adjustment after replacing the cylinder (video heads).
2) Head Switching Point Adjustment.

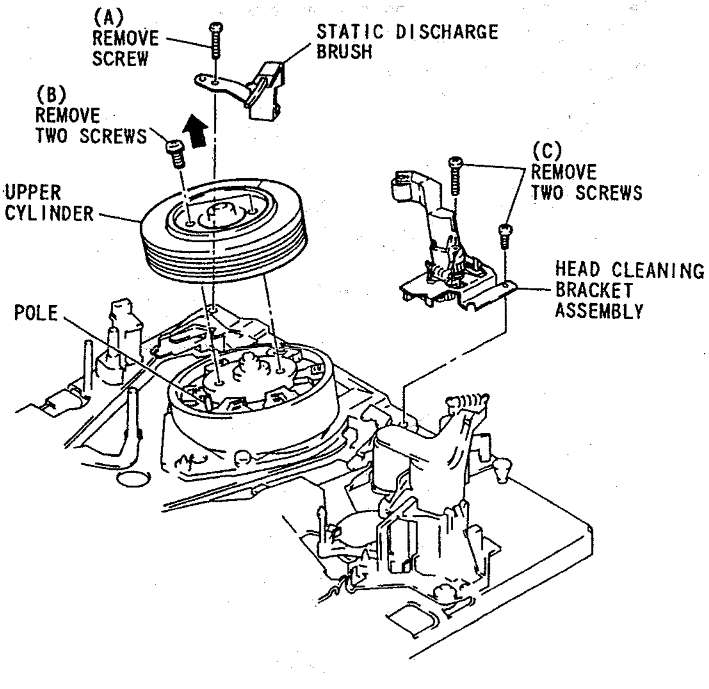

(A) REMOVE SCREW
STATIC DISCHARGE BRUSH
(B) REMOVE TWO SCREWS
UPPER CYLINDER
(C) REMOVE TWO SCREWS
HEAD CLEANING BRACKET ASSEMBLY
POLE

Fig. 6-3

4. Cylinder Motor Assembly

◆ Cautions during work

1) Place the side of the unit down for working.
2) Do not touch video head tips.

◆ Adjustment after reinstalling

1) Adjustment after replacing the cylinder (video heads).

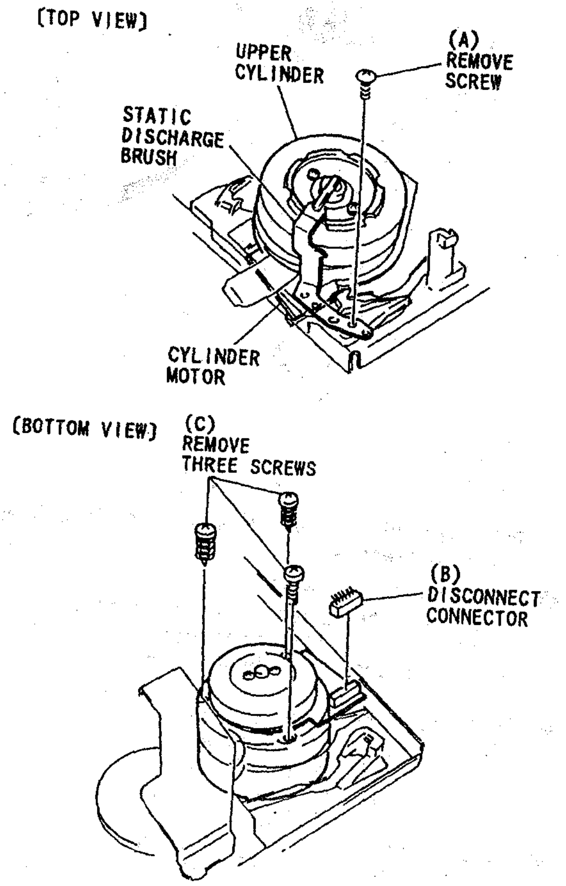

[TOP VIEW]
UPPER CYLINDER
(A) REMOVE SCREW
STATIC DISCHARGE BRUSH
CYLINDER MOTOR
[BOTTOM VIEW]
(C) REMOVE THREE SCREWS
(B) DISCONNECT CONNECTOR

Fig. 6-4

5. Capstan Motor Assembly

◆ Components to remove previously

1) Remove the drive belt.

◆ Caution when reinstalling

1) Keep the surface of the capstan shaft which is in contact with the tape clean.

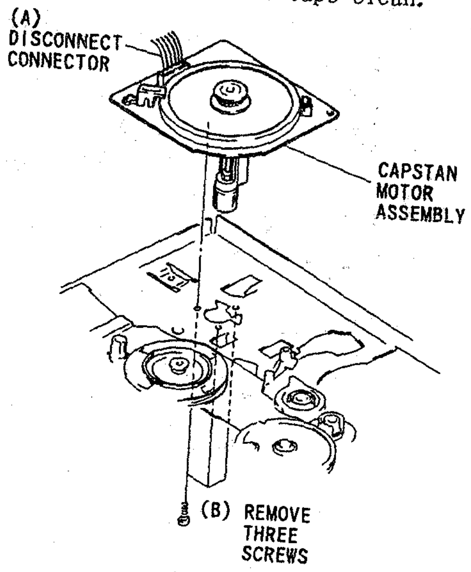

(A) DISCONNECT CONNECTOR
CAPSTAN MOTOR ASSEMBLY
(B) REMOVE THREE SCREWS

Fig. 6-5

6. Tension Band/ Tension Arm/ Tension Drive Arm

◆ Caution when reinstalling

1) Keep the surface of the tension pole which is in contact with the tape clean.
2) Insert the boss of this arm into the groove in cam gear (A). (See Fig. 6-7)

◆ Adjustments after reinstalling

1) Tension Pole Position and Tension Adjustment

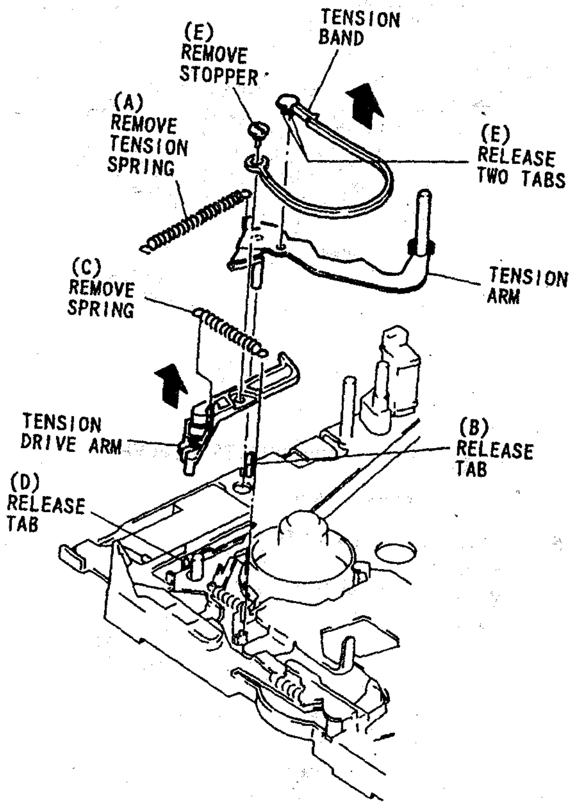

(E) REMOVE STOPPER
TENSION BAND
(A) REMOVE TENSION SPRING
(E) RELEASE TWO TABS
TENSION ARM
(C) REMOVE SPRING
TENSION DRIVE ARM
(B) RELEASE TAB
(D) RELEASE TAB

Fig. 6-6

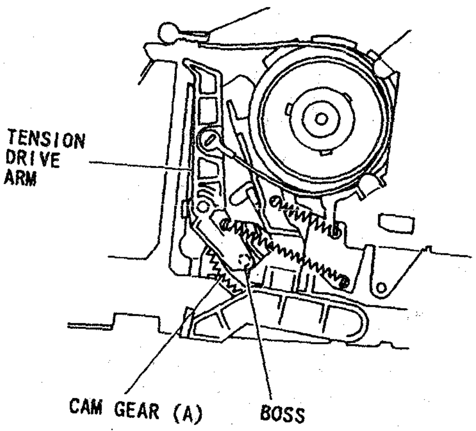

TENSION DRIVE ARM
CAM GEAR (A)
BOSS

Fig. 6-7

7. Safety Arm

◆ **Components to remove previously**

1) Tension Band/Tension Arm/Tension Drive Arm (Item 6-6)

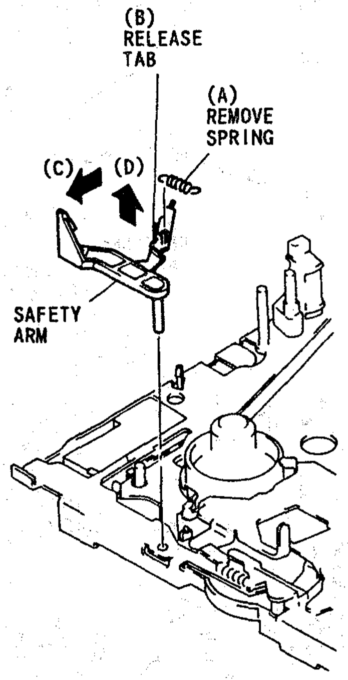

(B)
RELEASE
TAB
(A)
REMOVE
SPRING
(C)
(D)
SAFETY
ARM

Fig. 6-8

8. Upper Plate, Torque Change Arm, Supply/Take-up Main Brakes

Note: Refer to item 23 on page 2-14 for the procedure to install the torque arm.

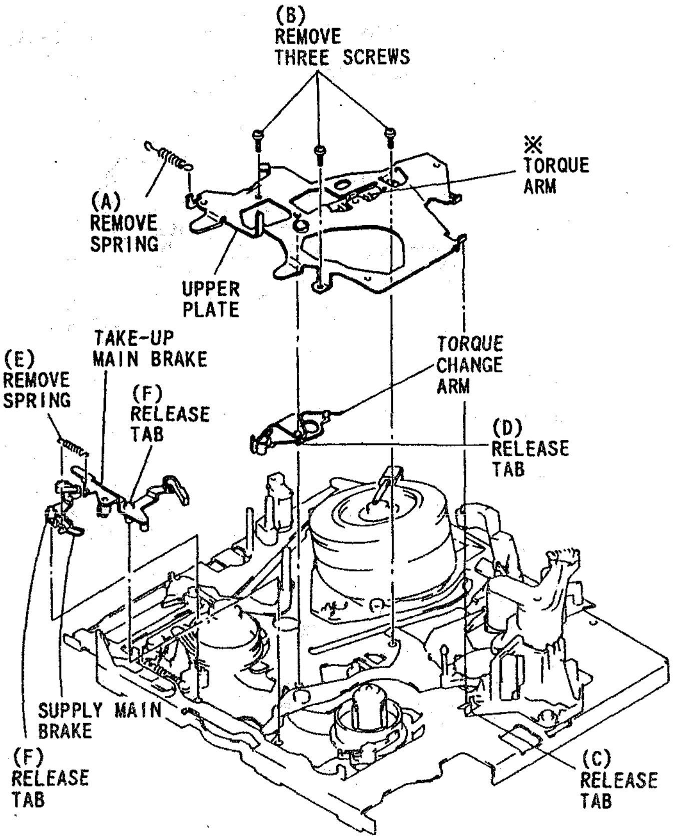

(B)
REMOVE
THREE SCREWS
※
TORQUE
ARM
(A)
REMOVE
SPRING
UPPER
PLATE
TAKE-UP
MAIN BRAKE
(E)
REMOVE
SPRING
(F)
RELEASE
TAB
TORQUE
CHANGE
ARM
(D)
RELEASE
TAB
SUPPLY MAIN
BRAKE
(F)
RELEASE
TAB
(C)
RELEASE
TAB

Fig. 6-9

9. Supply/Take-up Reel Disks, Supply/Take-up Sub Brakes

◆ **Components to remove previously**

1) Upper Plate, Supply/Take-up Main Brakes (Item 6-8)
2) Tension Arm/Tension Band Assembly (Item 6-6)

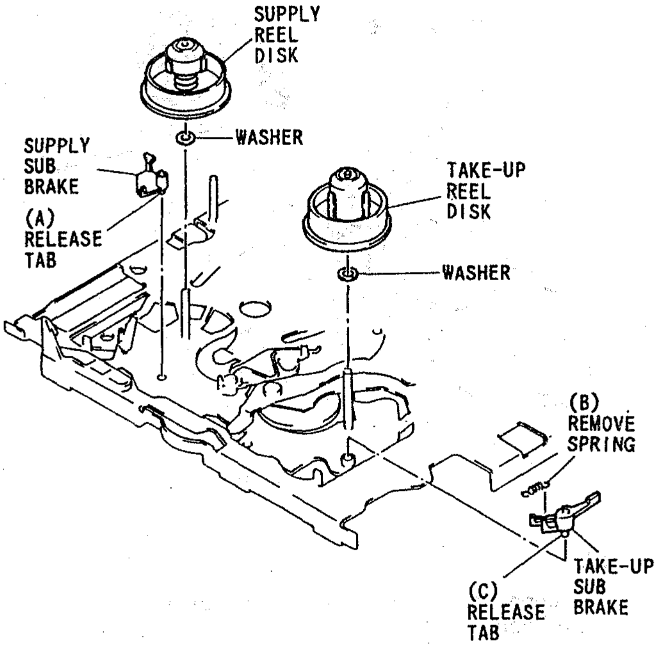

SUPPLY
REEL
DISK
WASHER
SUPPLY
SUB
BRAKE
(A)
RELEASE
TAB
TAKE-UP
REEL
DISK
WASHER
(B)
REMOVE
SPRING
TAKE-UP
SUB
BRAKE
(C)
RELEASE
TAB

Fig. 6-10

10. Pressure Roller Assembly

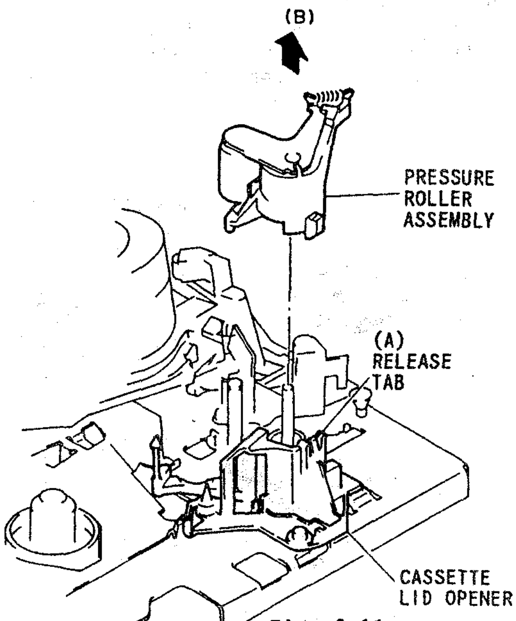

(B)
PRESSURE
ROLLER
ASSEMBLY
(A)
RELEASE
TAB
CASSETTE
LID OPENER

Fig. 6-11

11. Pressure Roller Cam Gear, Cassette Lid Opener and Middle Pole

◆ **Components to remove previously**

1) Pressure Roller Assembly (Item 6-10)

◆ **Caution when reinstalling**

1) Keep the surface of the middle pole which is in contact with the tape clean.
2) Hook the spring between the middle pole and chassis.
3) Align mark (○) on the pressure roller cam gear and mark (△) on the pressure roller drive gear. (See Fig. 6-15)

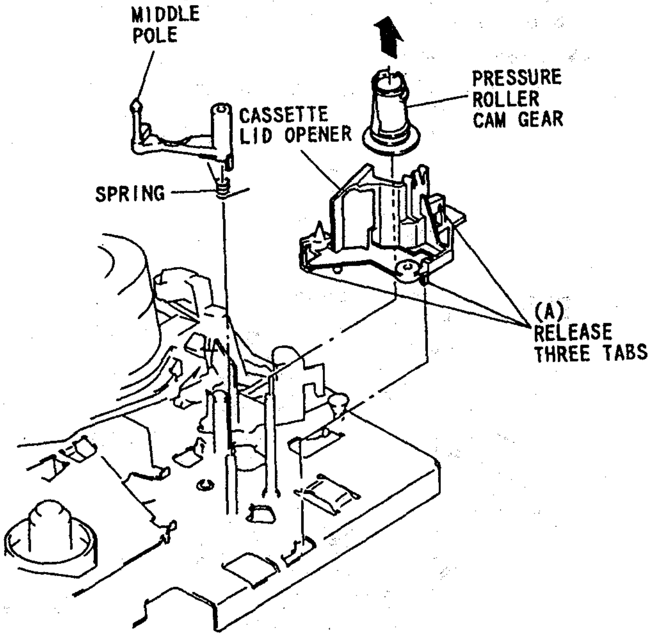

MIDDLE POLE
CASSETTE LID OPENER
PRESSURE ROLLER CAM GEAR
SPRING
(A) RELEASE THREE TABS

Fig. 6-12

12. Pressure Roller Drive Gear

◆ Components to remove previously
1) Upper Plate (Item 6-8)
2) Pressure Roller Assembly (Item 6-10)
3) Pressure Roller Cam Gear, Cassette Lid Opener and Middle Pole (Item 6-11)

◆ Caution when reinstalling
1) Align hole (A) in the pressure roller drive gear and the hole in the chassis. Also align the markings on the pressure roller drive gear and arm.

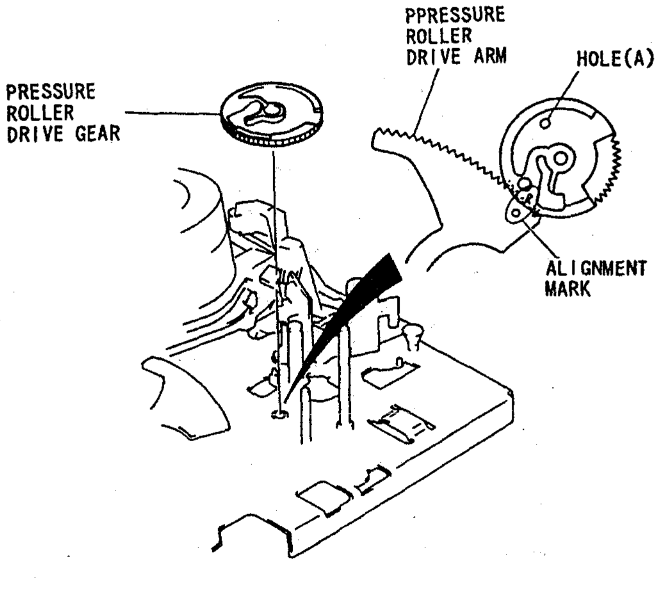

PPRESSURE ROLLER DRIVE ARM
HOLE(A)
PRESSURE ROLLER DRIVE GEAR
ALIGNMENT MARK

Fig. 6-13

13. Pressure Roller Drive Arm and Fine Slow Brake Arm

◆ Components to remove previously
1) Head Cleaning Bracket Assembly (Item 6-3)
2) Upper Plate (Item 6-8)

◆ Caution when reinstalling
1) Check that the boss of the pressure roller drive arm is securely inserted into the groove in cam gear (B). (See Fig. 6-15)
2) Align hole (A) in the pressure roller drive arm and the hole in the chassis. (See Fig. 6-15)

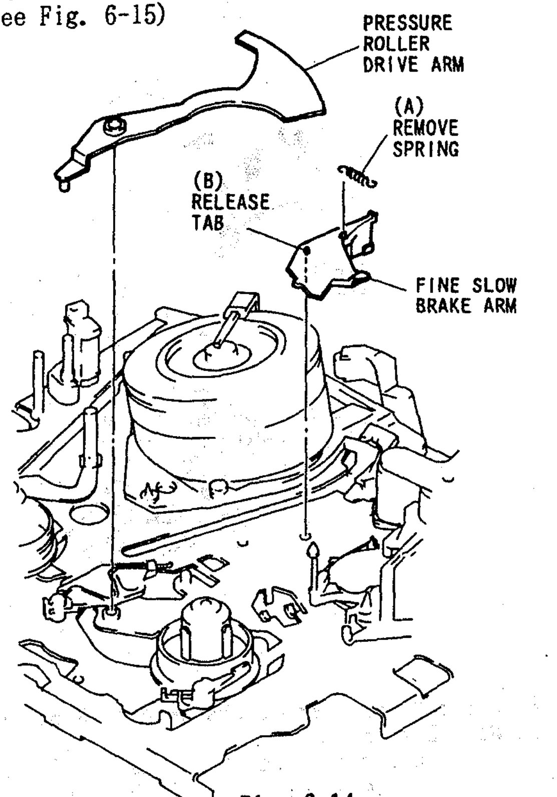

PRESSURE ROLLER DRIVE ARM
(A) REMOVE SPRING
(B) RELEASE TAB
FINE SLOW BRAKE ARM

Fig. 6-14

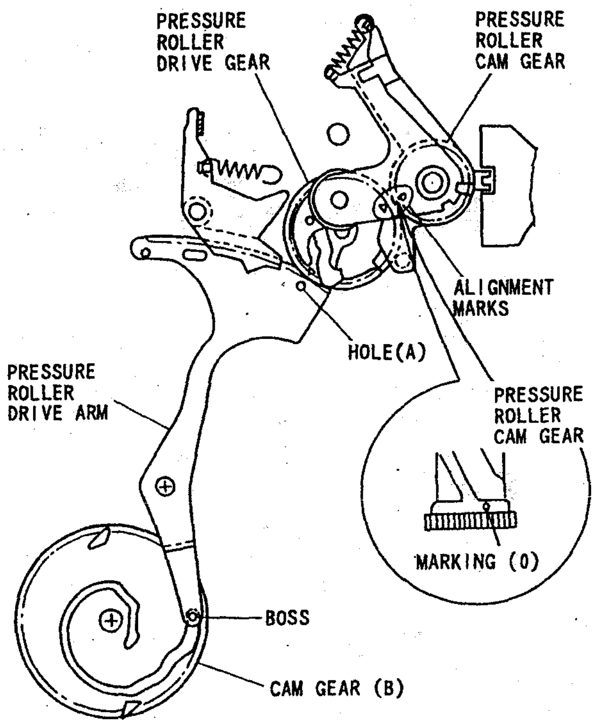

PRESSURE ROLLER DRIVE GEAR
PRESSURE ROLLER CAM GEAR
ALIGNMENT MARKS
HOLE(A)
PRESSURE ROLLER DRIVE ARM
PRESSURE ROLLER CAM GEAR
MARKING (0)
BOSS
CAM GEAR (B)

Fig. 6-15

14. Supply/Take-up Guide Rollers

◆ **Caution when reinstalling**

1) Keep the surface of the guide roller which is in contact with the tape clean.

◆ **Adjustments after reinstalling**

1) Guide Roller Height Adjustment

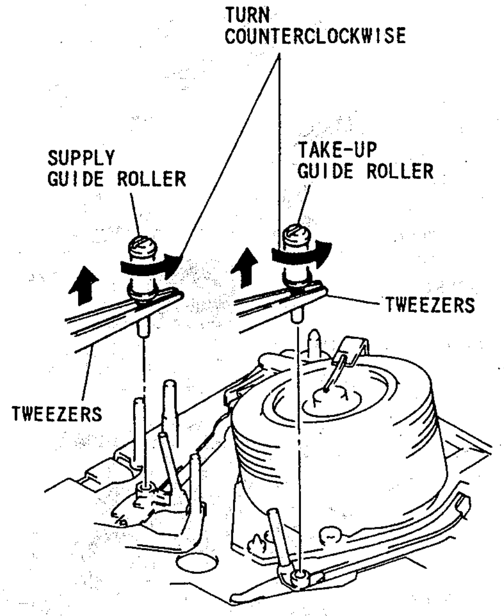

TURN
COUNTERCLOCKWISE
SUPPLY
GUIDE ROLLER
TAKE-UP
GUIDE ROLLER
TWEEZERS
TWEEZERS

Fig. 6-16

15. Cylinder Motor Base

◆ **Components to remove previously**

1) Head Cleaning Bracket Assembly (Item 6-3)
2) Cylinder Motor Assembly (Item 6-4)

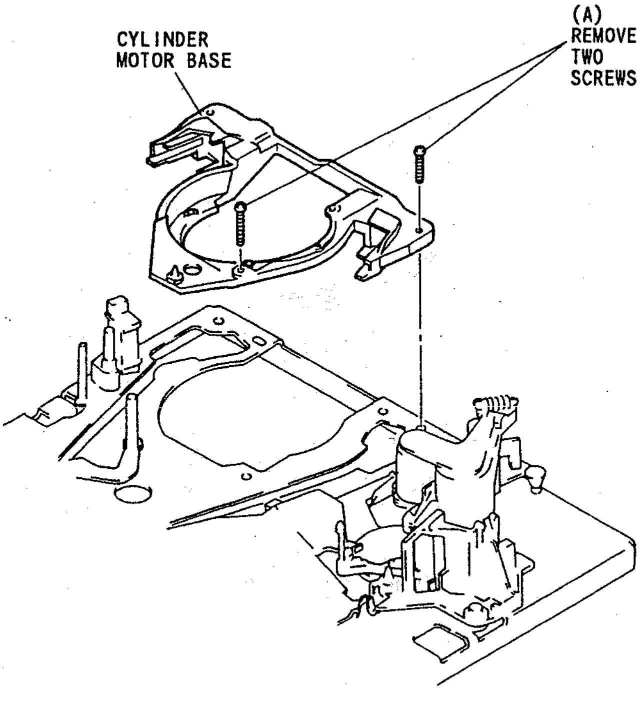

CYLINDER
MOTOR BASE
(A)
REMOVE
TWO
SCREWS

Fig. 6-17

16. Centre Pulley, FL Relay Gear (B)

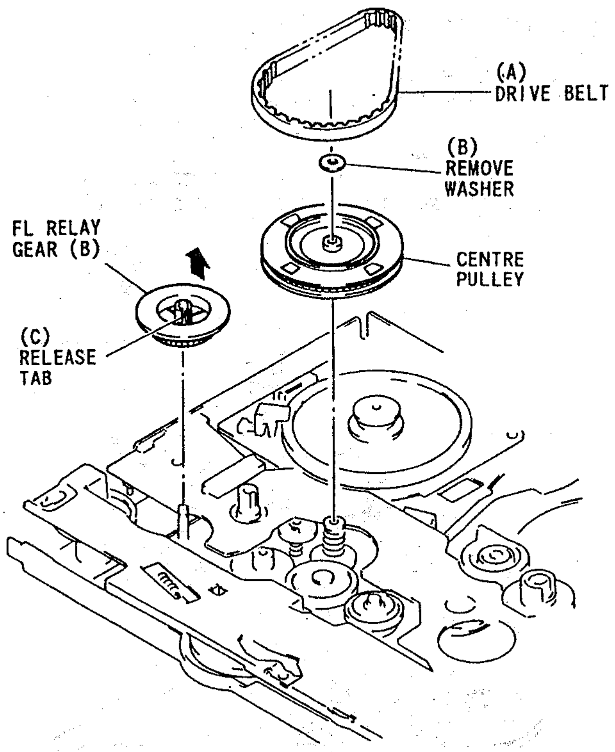

(A)
DRIVE BELT
(B)
REMOVE
WASHER
FL RELAY
GEAR (B)
CENTRE
PULLEY
(C)
RELEASE
TAB

Fig. 6-18

17. Reel Drive Idler, Reel Gears -(L)/(R)

◆ **Components to remove previously**

1) Centre Pulley (Item 10-16)

◆ **Caution when reinstalling**

1) Install the spring between the idler and washer.

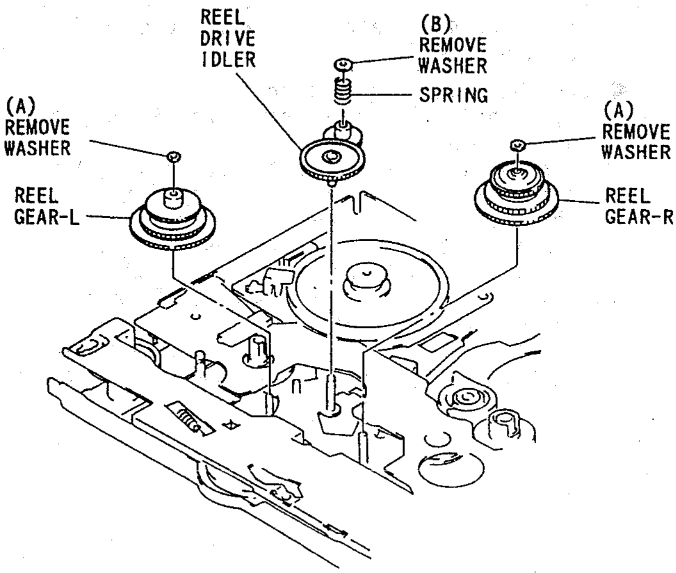

REEL
DRIVE
IDLER
(B)
REMOVE
WASHER
SPRING
(A)
REMOVE
WASHER
(A)
REMOVE
WASHER
REEL
GEAR-L
REEL
GEAR-R

Fig. 6-19

18. Roller Plate, Mode Gear

◆ Caution when reinstalling

1) Align mark (G) on cam gear-A and mark (F) on the mode gear. (See Fig. 6-23)
2) Align the arrow on the sensor P.C.B and arrow (No.1) on the mechanism state switch. (See Fig. 6-23)
3) With the above conditions, align mark (B) on the mechanism state switch and mark (C) on the mode gear. (See Fig. 6-23)

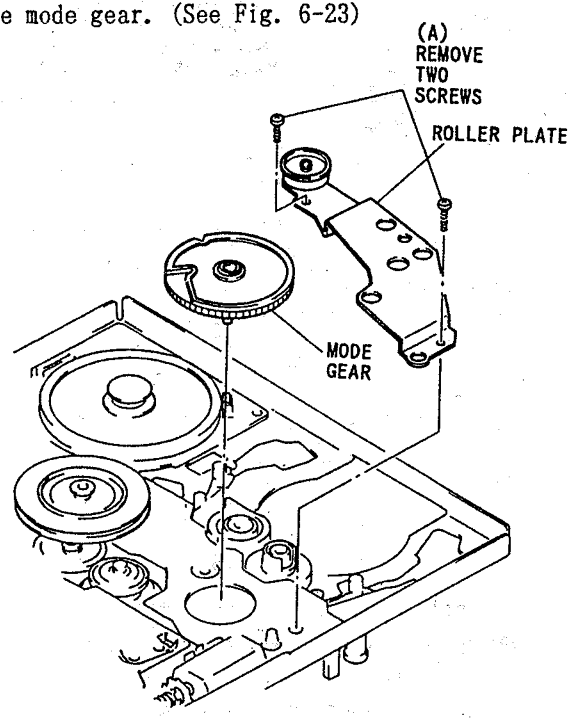

(A) REMOVE TWO SCREWS
ROLLER PLATE
MODE GEAR

Fig. 6-20

19. Gear Plate, Relay Gear, Wheel Gear, Take-up Brake Sub Arm, Latch Arm, Relay Gear -(C), Cam Gears (A)/(B)

◆ Caution when reinstalling

1) Align hole (A) in the cam gear-(A) and the hole in the chassis.
   Also align mark (G) on the cam gear-(A) and mark (F) on the mode gear. (See Fig.6-23)
2) Check that the bosses of the supply sub brake and tension drive arm are inserted into the specified positions. (See Fig. 6-22)
3) Align mark (I) in the cam gear-(B) and mark (H) on the cam gear-(A). (See Fig. 6-23)
4) Check that the boss of the pressure roller drive arm is inserted into the groove in the cam gear-(B). (See Fig. 6-22)

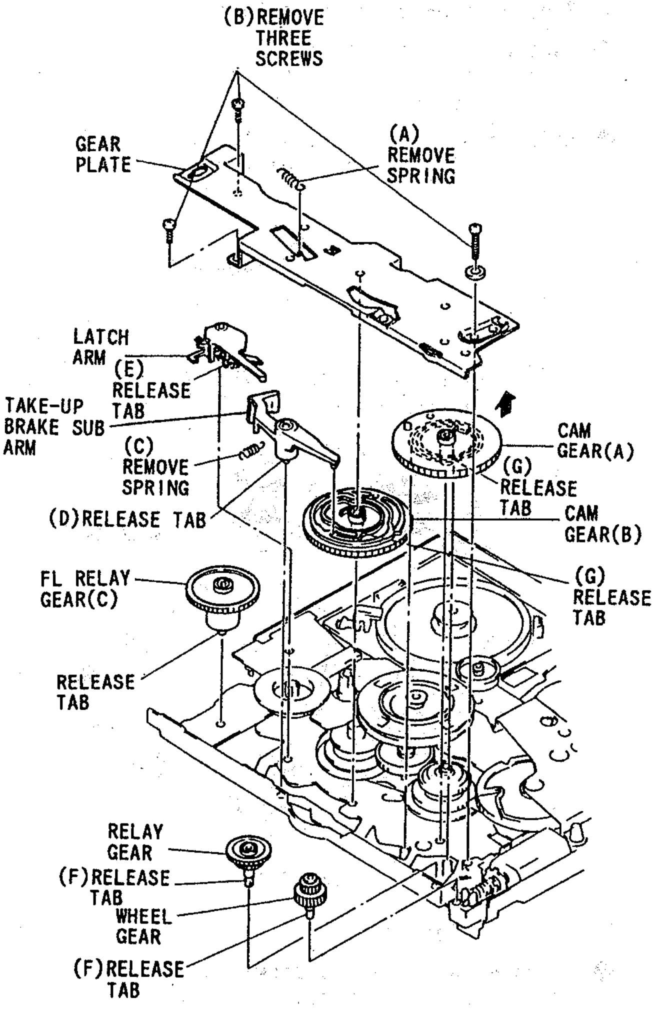

(B)REMOVE THREE SCREWS
GEAR PLATE
(A) REMOVE SPRING
LATCH ARM
(E) RELEASE TAB
TAKE-UP BRAKE SUB ARM
(C) REMOVE SPRING
(D)RELEASE TAB
CAM GEAR(A)
(G) RELEASE TAB
CAM GEAR(B)
(G) RELEASE TAB
FL RELAY GEAR(C)
RELEASE TAB
RELAY GEAR
(F)RELEASE TAB
WHEEL GEAR
(F)RELEASE TAB

Fig. 6-21

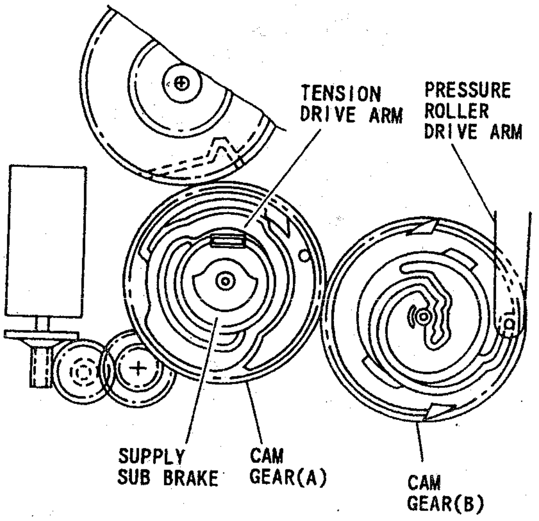

TENSION DRIVE ARM
PRESSURE ROLLER DRIVE ARM
SUPPLY SUB BRAKE
CAM GEAR(A)
CAM GEAR(B)

Fig. 6-22

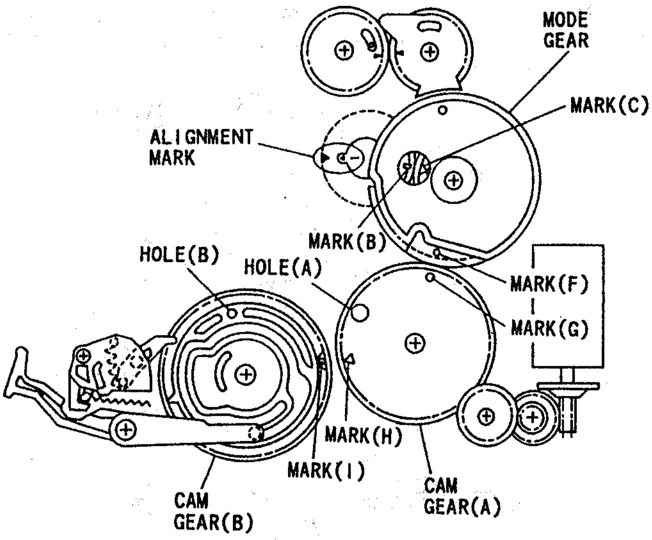

MODE GEAR
MARK(C)
ALIGNMENT MARK
MARK(B)
HOLE(B)
HOLE(A)
MARK(F)
MARK(G)
MARK(H)
MARK(I)
CAM GEAR(B)
CAM GEAR(A)

Fig. 6-23

20. Loading Motor Assembly

◆ **Components to remove previously**

1) FL Relay Gear (B) and Centre Pulley (Item 6-16)
2) Roller Plate, Mode Gear (Item 6-18)
3) Gear Plate, Relay Gear and Wheel Gear (Item 6-19)

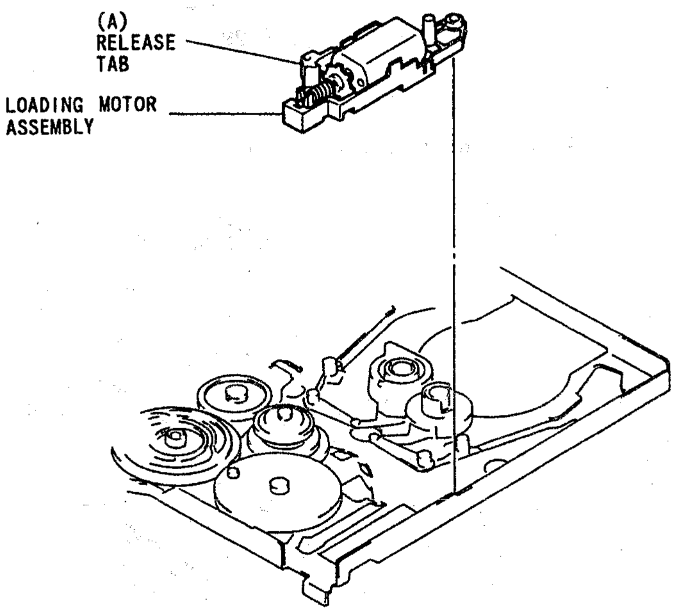

(A) RELEASE TAB
LOADING MOTOR ASSEMBLY

Fig. 6-24

21. FL Relay Gear -(A), FL Change Arm, FL Change Gear

◆ **Components to remove previously**

1) Roller Plate, Mode Gear (Item 6-18)
2) Centre Pulley, FL Relay Gear (B) (Item 6-16)
3) Sensor P.C.B (Item 3-6)

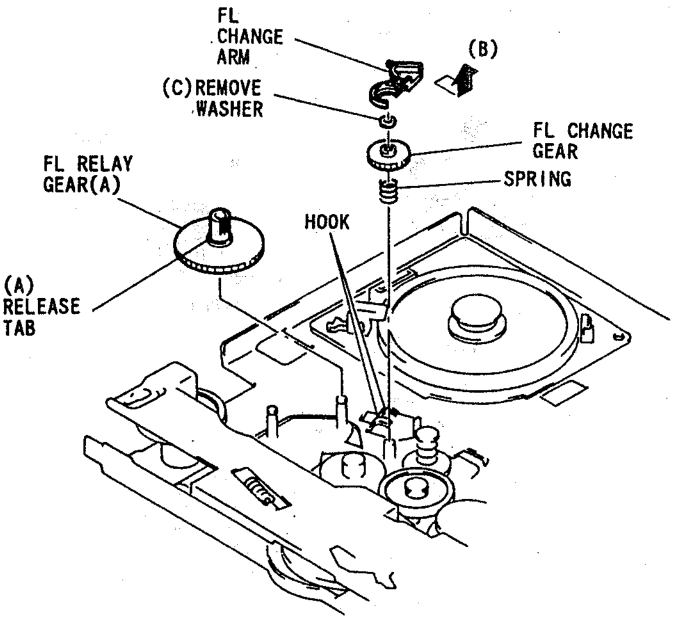

FL CHANGE ARM
(B)
(C)REMOVE WASHER
FL CHANGE GEAR
FL RELAY GEAR(A)
SPRING
HOOK
(A) RELEASE TAB

Fig. 6-25

◆ **Cautions when reinstalling**

Install the FL change arm by the following procedure. Do not narrow the "U"-shaped section of the arm when installing it. (See Fig. 6-26)

1) Place the arm sideways and pass it through the hole in the chassis.
2) Turn the arm to the front (to the right).
3) Push up the whole arm, taking care that section (a) of the arm does not hit the chassis and insert the bosses of the arm into the holes in the axis supports in the chassis.
4) After installing the arm, check that the arm moves smoothly.

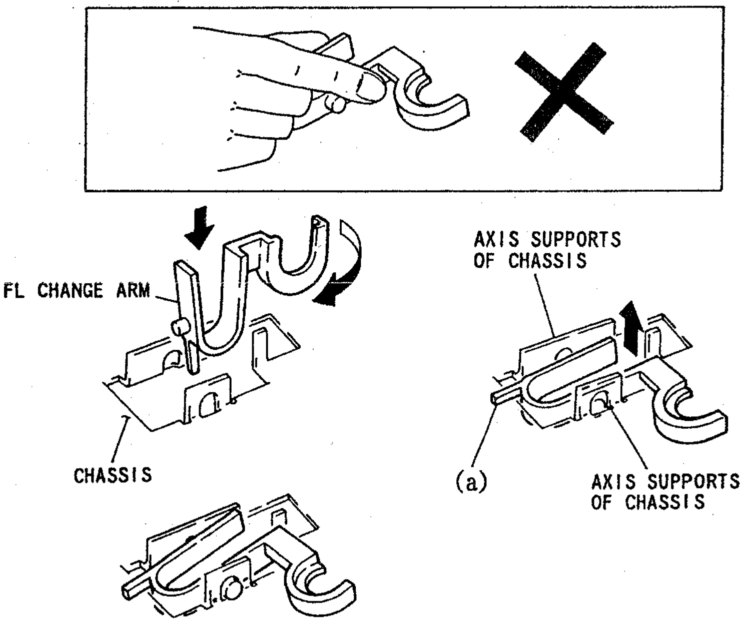

FL CHANGE ARM
AXIS SUPPORTS OF CHASSIS
CHASSIS
(a)
AXIS SUPPORTS OF CHASSIS

Fig. 6-26

22. Supply/Take-up Loading Arms

◆ Components to remove previously
1) Roller Plate, Mode Gear (Item 6-18)
2) Centre Pulley, FL Relay Gear (B) (Item 6-16)
3) Sensor P.C.B (Item 3-6)

◆ Caution when installation
1) Align the markings on each gear.
(See Fig. 6-28)

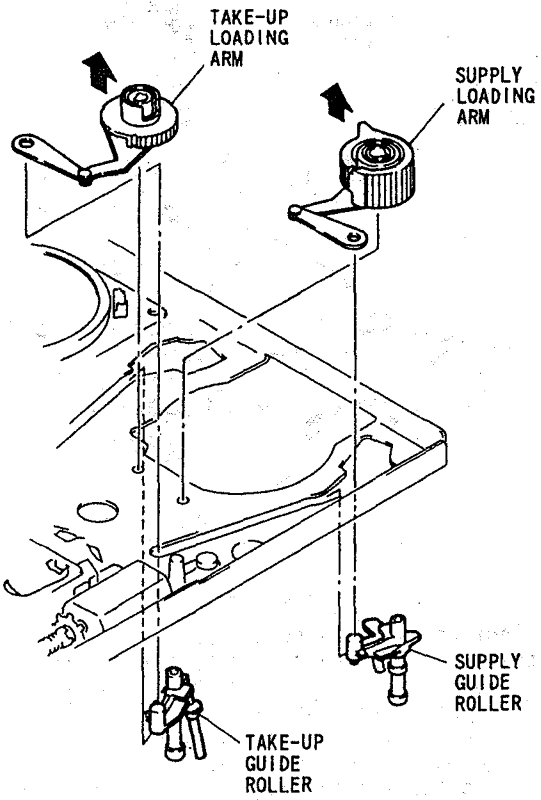

TAKE-UP
LOADING
ARM
SUPPLY
LOADING
ARM
SUPPLY
GUIDE
ROLLER
TAKE-UP
GUIDE
ROLLER

Fig. 6-27

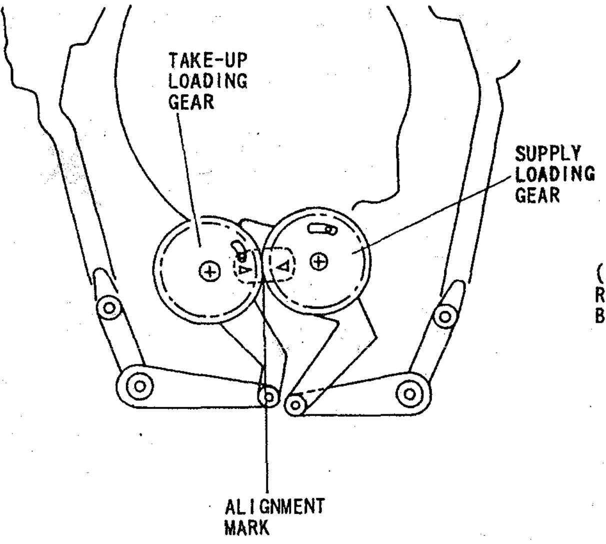

TAKE-UP
LOADING
GEAR
SUPPLY
LOADING
GEAR
ALIGNMENT
MARK

Fig. 6-28

23. Torque Arm Installation Procedure

1) Insert the torque arm as shown in the figure.
2) Fit the torque arm to the upper plate as shown in Fig. 6-29.
3) Install the torque arm into the upper plate while turning the arm in the direction of the arrow.

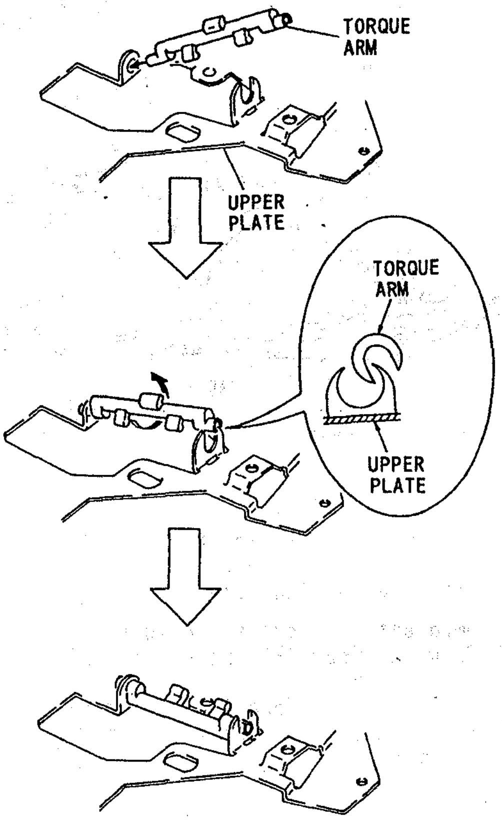

TORQUE
ARM
UPPER
PLATE
TORQUE
ARM
UPPER
PLATE

Fig. 6-29

24. Remote Control Hand Unit Cover

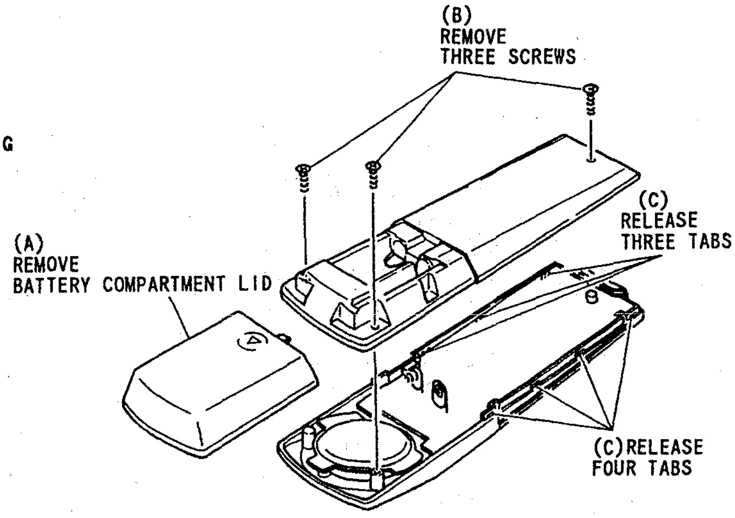
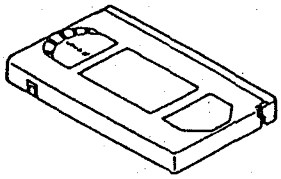
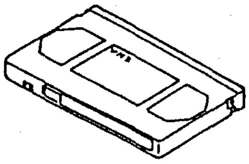
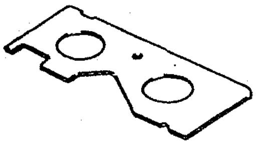
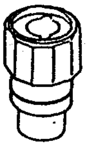
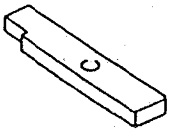

(B)
REMOVE
THREE SCREWS
(C)
RELEASE
THREE TABS
(A)
REMOVE
BATTERY COMPARTMENT LID
(C)RELEASE
FOUR TABS

Fig. 6-30

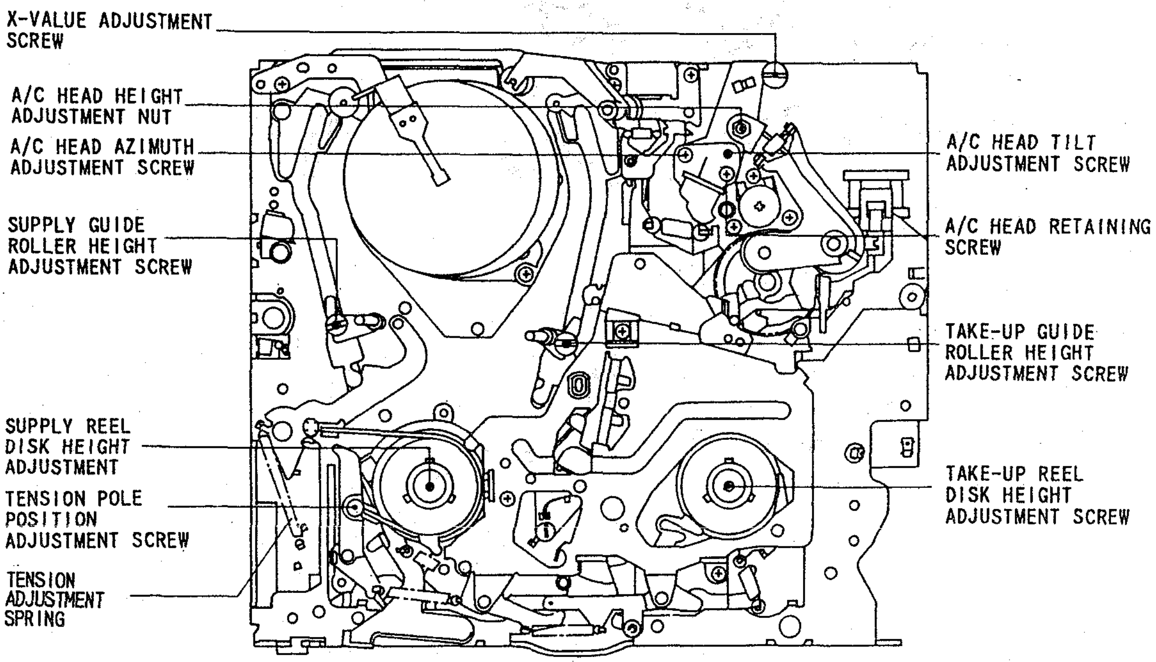
CHAPTER 3

MECHANISM ADJUSTMENT

JIGS AND TAPES FOR ADJUSTMENT

1. Back Tension Meter Parts No.7099004 	2. Alignment Tape - MH-1 - Parts No.7099046(NTSC) - MH-2 - Parts No.7099052(PAL) - MH-4 - Parts No.7099053(SECAM) 	3. Master Plane Parts No.7099279 
4. Torque Gauge Parts No.7099039 	5. Torque Gauge Adaptor Parts No.7099035 	6. Reel Disk Height Jig Parts No.7099038 

ADJUSTMENT PARTS LOCATIONS


X-VALUE ADJUSTMENT SCREW
A/C HEAD HEIGHT ADJUSTMENT NUT
A/C HEAD AZIMUTH ADJUSTMENT SCREW
SUPPLY GUIDE ROLLER HEIGHT ADJUSTMENT SCREW
SUPPLY REEL DISK HEIGHT ADJUSTMENT
TENSION POLE POSITION ADJUSTMENT SCREW
TENSION ADJUSTMENT SPRING
A/C HEAD TILT ADJUSTMENT SCREW
A/C HEAD RETAINING SCREW
TAKE-UP GUIDE ROLLER HEIGHT ADJUSTMENT SCREW
TAKE-UP REEL DISK HEIGHT ADJUSTMENT SCREW

Top View of Mechanism

MECHANICAL PARTS ADJUSTMENT

1. Mechanism State Switch Adjustment

Purpose: To detect the mechanism state correctly and prevent malfunctions.

Test equipment/jig	Preparation for Adjustment	State of VTR	Adjustment points
• Blank tape	———	• Eject mode (with the cassette ejected)	• Mechanism state switch • Mode gear

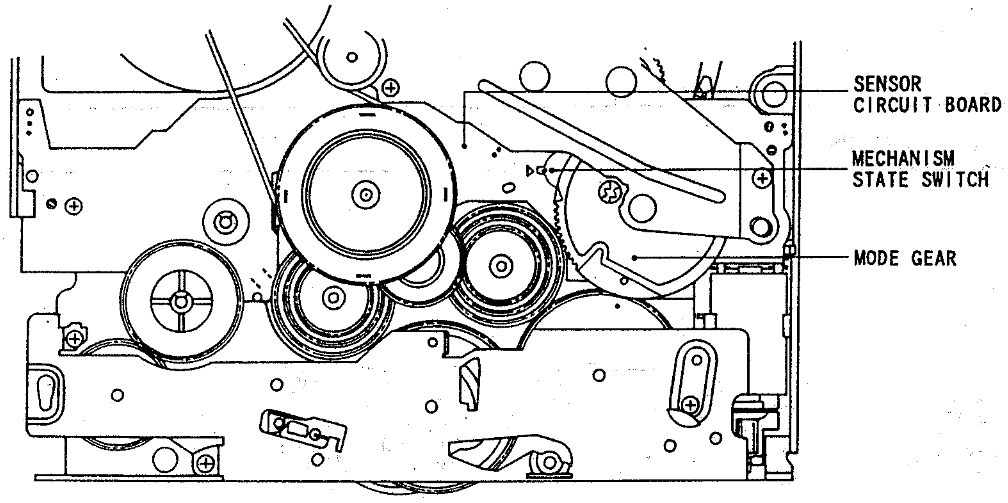
Adjustment procedure

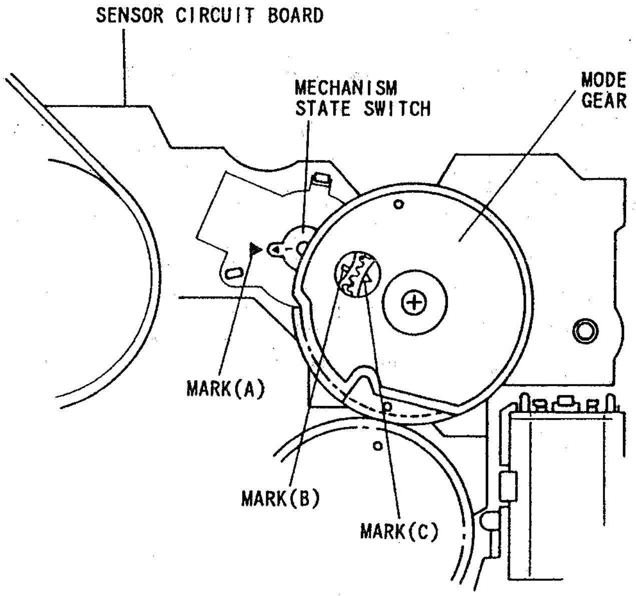
1) Check that arrow (A) on the Sensor P.C.B and the arrow of mechanism state switch indication number 1 are aligned.

2) If the above alignment is not obtained, adjust as follows.
   1. Remove the roller plate and mode gear. (See "MAIN MECHANICAL COMPONENTS REMOVAL" in CHAPTER 2.)
   2. Turn the mechanism state switch through the hole in the Sensor P.C.B to align arrow (A) on the Sensor P.C.B and the arrow of mechanism state switch indication number 1.
   3. Reinstall the mode gear so that mark (B) on the mechanism state switch and mark (C) on the mode gear are aligned.

3) Load a blank tape and perform various operations to check that loading and unloading are performed correctly.

Adjustment diagram


SENSOR CIRCUIT BOARD
MECHANISM STATE SWITCH
MODE GEAR


SENSOR CIRCUIT BOARD
MECHANISM STATE SWITCH
MODE GEAR
MARK(A)
MARK(B)
MARK(C)

TAPE TRANSPORT SYSTEM PARTS ADJUSTMENT

The tape transport system is the path from the supply reel disk passing through the video heads to the take-up reel disk. The transport system parts, especially the parts which directly come into contact with a tape, should be kept clean without scratches, dust, oil, etc.
The tape transport system has been adjusted before the unit is shipped from the factory. Therefore, when parts in the transport system are replaced, the transport system is stabilized by only adjusting the new parts correctly.

1. Reel Disk Height Adjustment

Purpose: To set the reels of the cassette to the specified height, thus determining the height of tape.

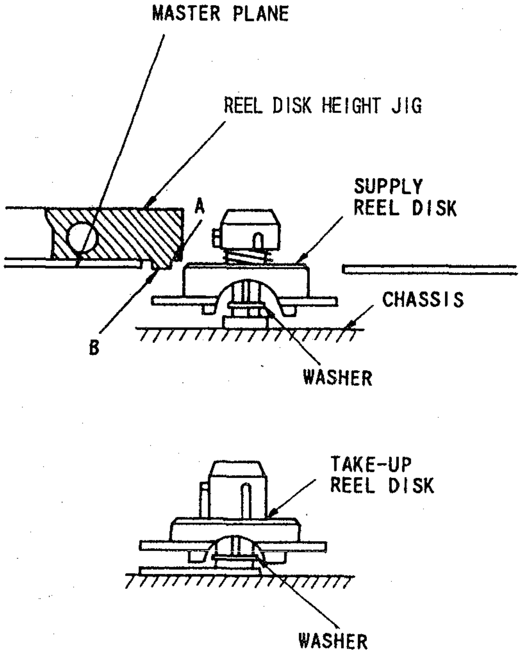
Test equipment/jig	Preparation for Adjustment	State of VTR	Adjustment points
· Master plane (Parts No.7099279) · Reel disk height jig (Parts No.7099038)	1) Remove the cassette loading mechanism. 2) Mount the master plane and place the reel disk height jig on it.	———	· Spacers in the supply and take-up reel disks

Adjustment procedure

1) Check that the reel disk is between sections A and B of the reel disk height jig.
2) If the disk is not between sections A and B of the jig, replace the spacer (0.5mm thick) in the reel disk or adjust them.

[Caution]
When the tension arm and tension band are removed, adjust the tension pole position and tension after reinstalling them.

Adjustment diagram



2. Tension Pole Position and Tension Adjustment

Purpose: To make the tension of tape constant so that the contact between the video heads and tape is stabilized.

Test equipment/jig	Preparation for Adjustment	State of VTR	Adjustment points
Position adjustment ———	———	1) Remove the top cover. 2) Set the VTR to the loading state without inserting a cassette. (See page 3-12)	Position adjustment: Tension band holder
Tension adjustment · Back Tension Meter (Parts No.7099004)	———	Tension adjustment 3) Play the tension cassette.	Tension adjustment: Tension spring hooking position

Adjustment procedure

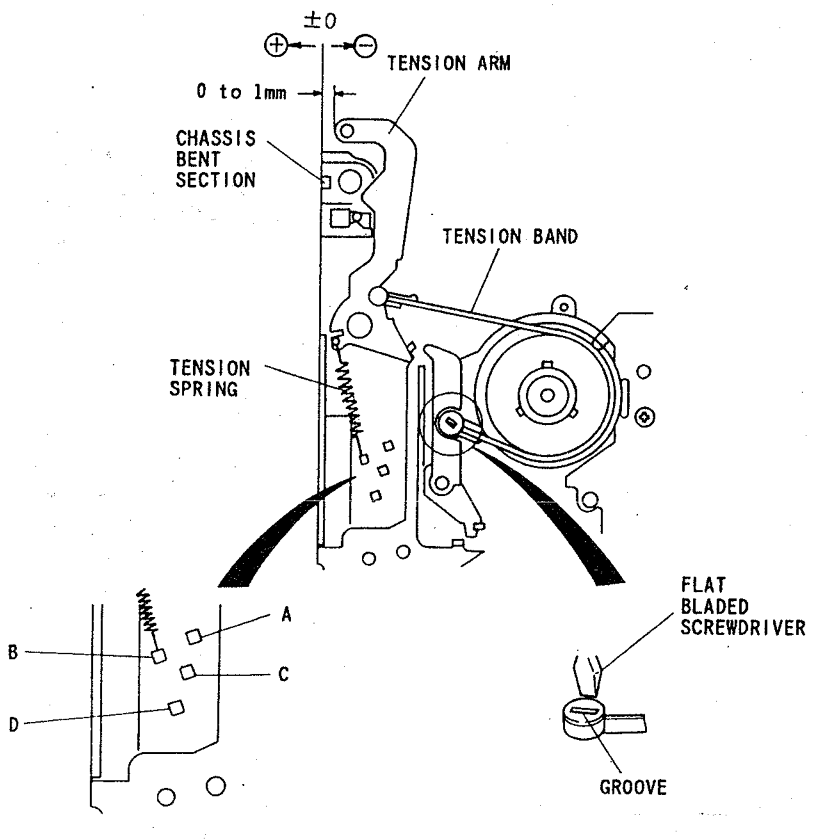
- Position Adjustment -

1) Hook the tension spring to position (B).
2) Insert a flat bladed screwdriver into the groove for the tension position adjustment and set the clearance between the tesion arm and chassis to 0 to +1.0mm.
3) After adjustment is completed, perform loading without inserting a cassette and recheck the tension pole position.

- Tension Adjustment -

1) Hook the tension spring to position (B).
   - ● Changing the tension arm position with this adjustment varies the back-tension torque value. Check the tension arm position without loading a tape and then set the back-tension torque to the following values.
2) When the tension arm is positioned 0.5 to 1mm from the chassis bent section:
   Reading of Tension Meter: 28 to 36 g-cm (reference value)
   If the reading is higher than the reference, move the spring to position (A).
   If the reading is lower than the reference, move the spring to position (C).
3) When the tension arm is positioned 0 to 0.5mm from the chassis bent section:
   Reading of Tension Meter: 25 to 32 g-cm (reference value)
   If the reading is higher than the reference, move the spring to position (A).
   If the reading is lower than the reference, move the spring to position (C).

Adjustment diagram



3. Guide Roller Height Adjustment

Purpose: To regulate the height of tape so that the bottom of tape runs along the tape guide line on the cylinder.

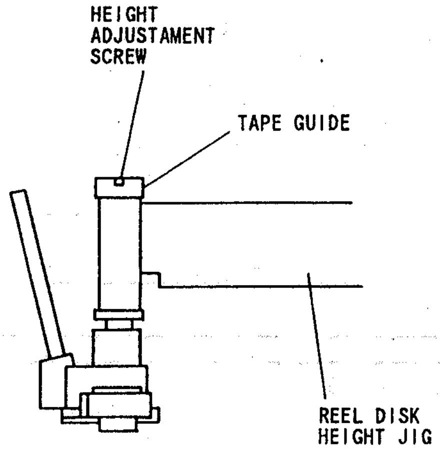
Coarse Adjustment

Test equipment/jig	Preparation for Adjustment	State of VTR	Adjustment points
• Master plane (Parts No.7099279) • Reel disk height jig (Parts No.7099038)	1) Remove the cassette loading mechanism. 2) Mount the master plane and place the reel disk height jig on it.	———	Height adjustment screws on the supply and take-up guide rollers

Adjustment procedure

1) Align the bottom of the guide roller's upper flange and the top of the reel disk height jig.
2) Perform the precise adjustment continuously.

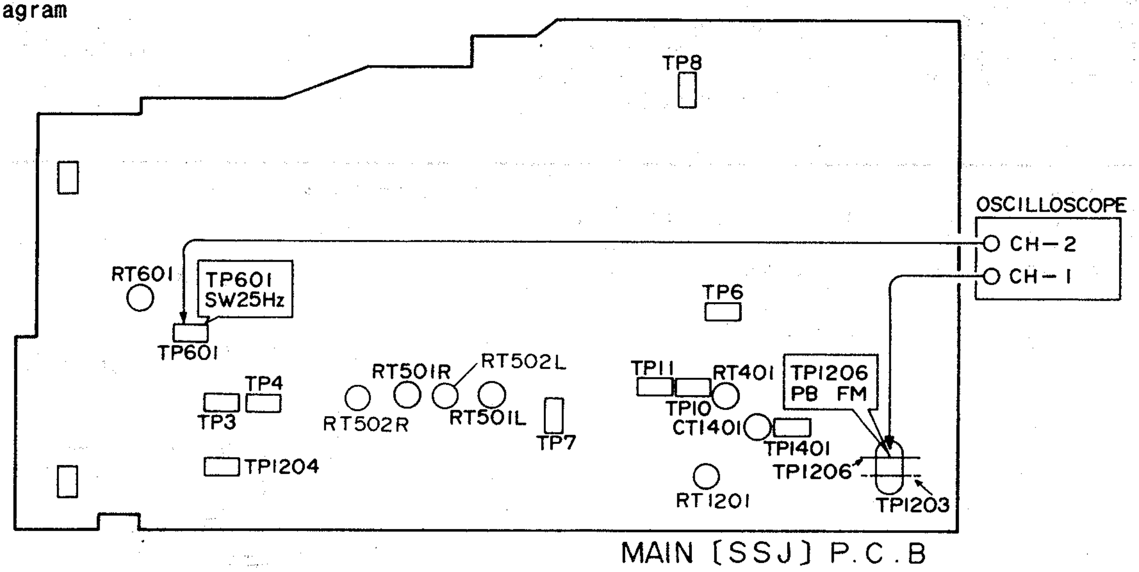
Adjustment diagram



Precise Adjustment

Test equipment/jig	Preparation for Adjustment	State of VTR	Adjustment points
• Oscilloscope	• CH-1: TP1206 (PB FM) • CH-2: TP601 (SW25Hz) [Main P.C.B]	• Play alignment tape (Colour bars section)	• Guide roller height adjustment screws
• Alignment tape (MH-1 Parts No.7099046) (MH-2 Parts No.7099052) (MH-4 Parts No.7099053)			

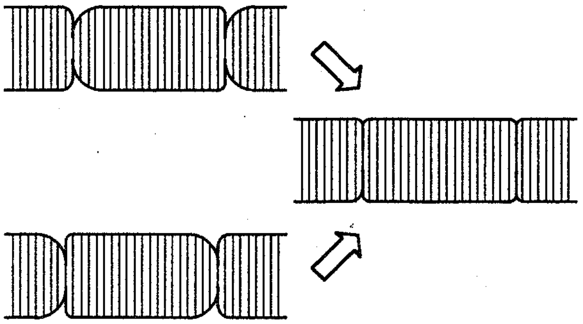
Connection diagram


TP8
OSCILLOSCOPE
CH-2
CH-1
RT601
TP601
SW25Hz
TP601
TP6
TP4
TP3
RT501R
RT502L
RT502R
RT501L
TP7
TP11
RT401
TP10
TP1206
PB FM
CT1401
TP1401
TP1206
TP1203
TP1204
RT1201
MAIN [SSJ] P.C.B

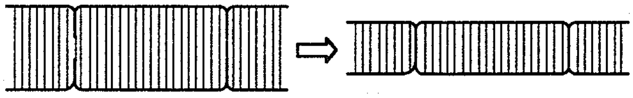
Adjustment procedure

1) Tracking control (playback) : Autotracking mode
   (when this adjustment is performed after the cylinder has been replaced, set the tracking control so that the FM output is maximum.)
2) Height adjustment screw : Flatten the FM envelope.
3) Press the tracking control up and down buttons.
4) Check that the FM drops at the start and end of FM envelope are uniform.
5) Tighten the guide roller retaining screw.

Waveforms



Turn the guide roller height adjustment screw slightly to flatten the waveform.



Autotracking mode

Press the tracking control buttons.

4. Audio / Control (A/C) Head Adjustment

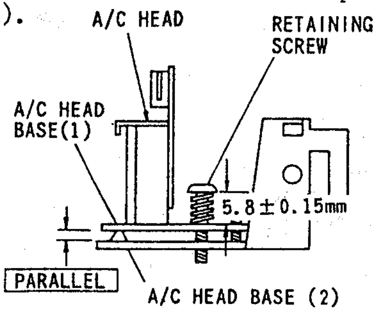
Purpose: To keep the contact between the tape and head even so the specified track is recorded and played back.

Coarse Adjustment

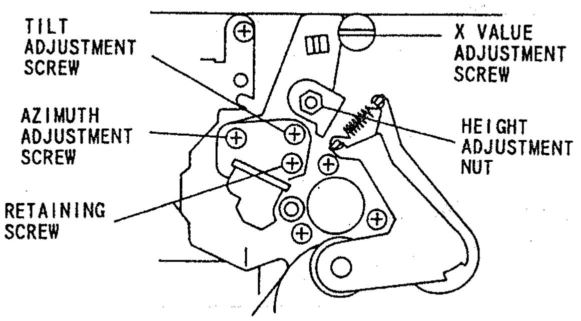
Test equipment/jig	Preparation for Adjustment	State of VTR	Adjustment points
• Blank tape	———	• Run the blank tape.	• A/C head retaining screw • Azimuth adjustment screw • Height adjustment nut • Tilt adjustment screw

Adjustment procedure/adjustment diagrams

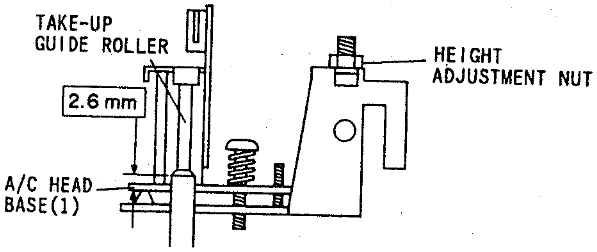
1) A/C head retaining screw: Check that the spring section of the A/C head retaining screw protrudes 5.8±0.15mm over the top of head base (1).


A/C HEAD
RETAINING SCREW
A/C HEAD BASE(1)
5.8±0.15mm
PARALLEL
A/C HEAD BASE (2)

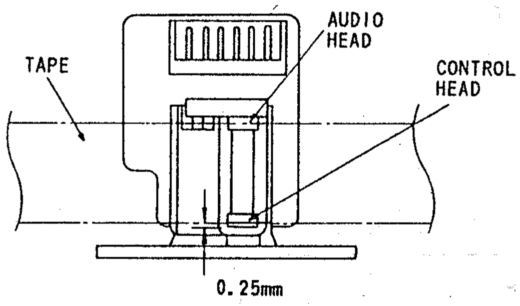
2) Tilt adjustment hexagonal screw, azimuth adjustment screw: Make head bases (1) and (2) parallel.


TILT ADJUSTMENT SCREW
X VALUE ADJUSTMENT SCREW
AZIMUTH ADJUSTMENT SCREW
HEIGHT ADJUSTMENT NUT
RETAINING SCREW

3) Height adjustment nut: Adjust the height of A/C head base (1) so that its top surface is approx. 2.6 mm lower than the bottom flange of the take-up guide pole.


TAKE-UP GUIDE ROLLER
HEIGHT ADJUSTMENT NUT
2.6 mm
A/C HEAD BASE(1)

4) Load a blank tape and set the VTR to the play mode.
5) Check that there is no conspicuous curling and riding over around the A/C head. If there is conspicuous curling or riding over, readjust the tilt adjustment hexagonal screw, azimuth adjustment screw and height adjustment nut. When the bottom edge of tape is 0.25 mm from the bottom edge of the control head's core, the height of A/C head is ideal.


AUDIO HEAD
TAPE
CONTROL HEAD
0.25mm

6) Perform the precise adjustment continuously.

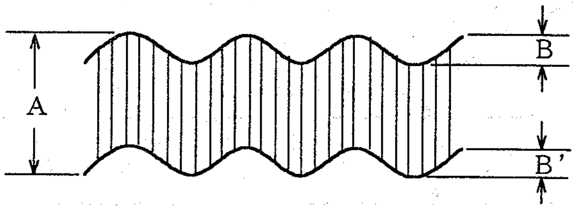
Precise Adjustment

Test equipment/jig	Preparation for Adjustment	State of VTR	Adjustment points
• Oscilloscope	• AUDIO OUT	• Play alignment tape (Stairsteps section)	• Azimuth adjustment screw • Height adjustment nut • Tilt adjustment screw
• Alignment tape (MH-1 Parts No. 7099046) (MH-2 Parts No. 7099052) (MH-4 Parts No. 7099053)	———		

Adjustment procedure

1) Adjust the azimuth adjustment screw, height adjustment nut and tilt adjustment hexagonal screw slightly and alternately: Make the audio output maximum and flat (minimum fluctuations).

Waveform diagram



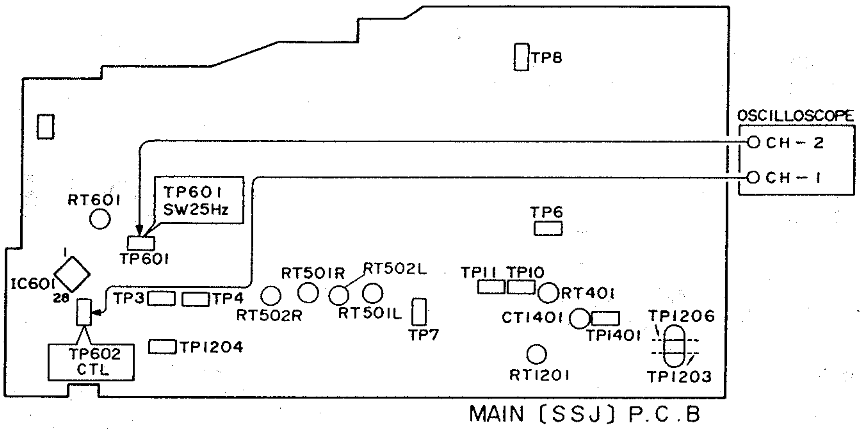
A: Maximum BB': Minimum

5. X-Value Adjustment

Purpose: To obtain compatibility with other VTRs.

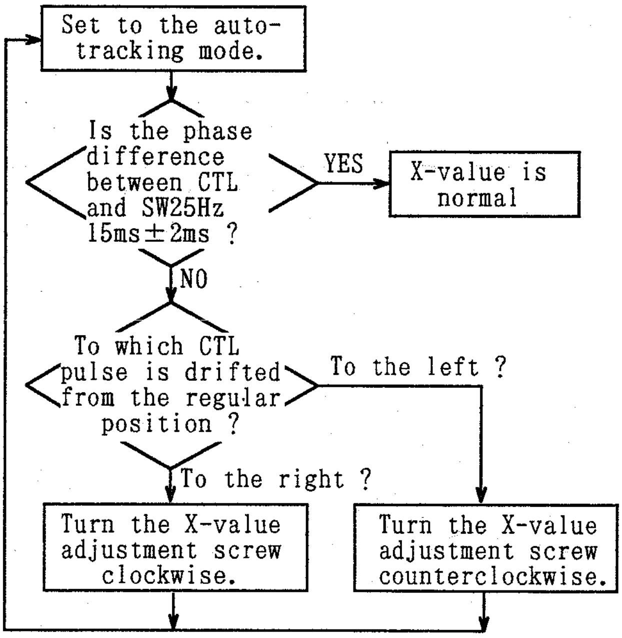
Test equipment/jig	Preparation for Adjustment	State of VTR	Adjustment points
• Oscilloscope	• CH-1: TP602 (CTL PULSE) • CH-2: TP601 (SW25Hz) [Main P.C.B]	• Play alignment tape (Stairsteps section)	• X-value adjustment screw
• Alignment tape (MH-1 Parts No. 7099046) (MH-2 Parts No. 7099052) (MH-4 Parts No. 7099053)	———		

Connection diagram

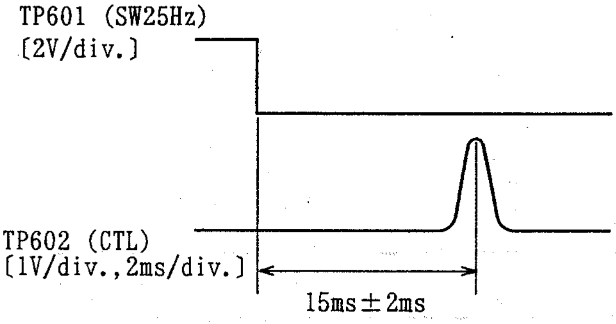

TP8
OSCILLOSCOPE
CH-2
CH-1
RT601
TP601 SW25Hz
TP601
TP6
IC601
1
28
TP3
TP4
RT501R
RT502L
RT502R
RT501L
TP7
TP11
TP10
RT401
CT1401
TP1401
TP1206
TP1203
RT1201
TP602 CTL
TP1204
MAIN [SSJ] P.C.B

Adjustment procedure

Adjust so that the phase difference between the CTL pulse (positive pulse) and the SW25Hz signal is 15ms±2ms when the autotracking function operates.


Set to the auto-tracking mode.
Is the phase difference between CTL and SW25Hz 15ms±2ms ?
YES
X-value is normal
NO
To which CTL pulse is drifted from the regular position ?
To the left ?
To the right ?
Turn the X-value adjustment screw clockwise.
Turn the X-value adjustment screw counterclockwise.

Waveforms


TP601 (SW25Hz)
[2V/div.]
TP602 (CTL)
[1V/div.,2ms/div.]
15ms±2ms

6. Adjustments After Replacing Cylinder (Video Heads)

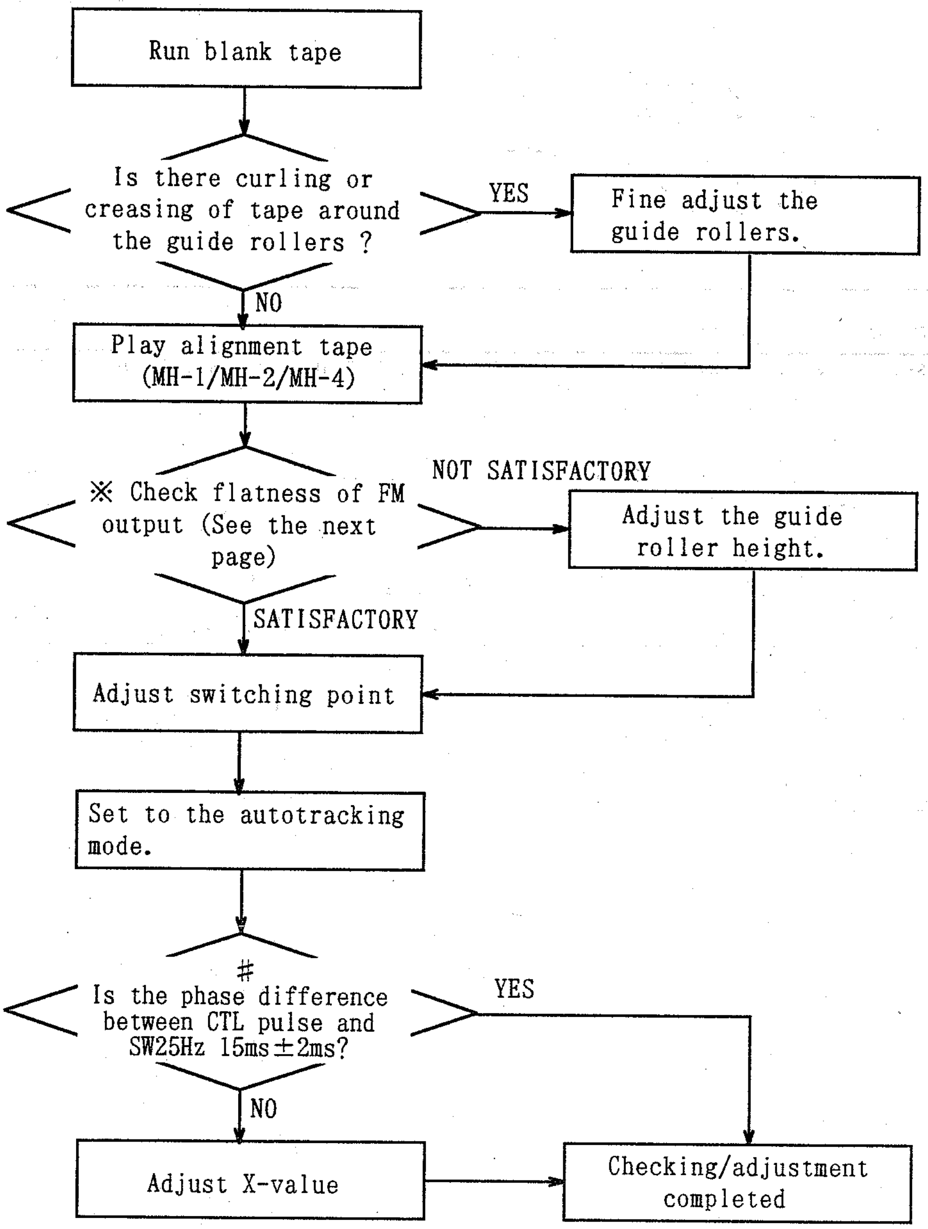
Purpose: To suppress drift in the height relative to the guide roller and to minimize the X-value after replacing the cylinder.

Test equipment/jig	Preparation for Adjustment	State of VTR	Adjustment points
• Oscilloscope	Checking the flatness • CH-1: TP1206 (PB FM) • CH-2: TP601 (SW25Hz) [Main P.C.B]	• Run the blank tape	• Guide rollers (precise adjustment on page 3-6) • Head switching point (page 4-3) • X-value (page 3-8)
• Alignment tape (MH-1 Parts No.7099046) (MH-2 Parts No.7099052) (MH-4 Parts No.7099053)		• Play alignment tape (Stairsteps section)	
• Blank tape			

Checking/adjustment procedure

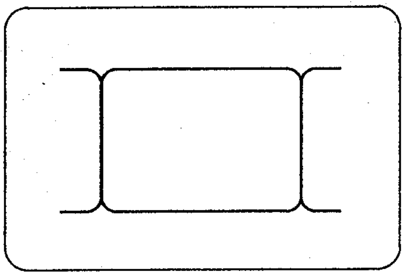
NOTE-1 : Connect test equipment referring to connection diagram on page 3-6 when checking the item marked ※.

NOTE-2 : Connect test equipment referring to connection diagram on page 3-8 when checking the item marked #.

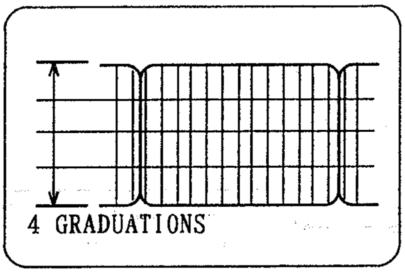

Run blank tape
Is there curling or creasing of tape around the guide rollers ?
YES
Fine adjust the guide rollers.
NO
Play alignment tape (MH-1/MH-2/MH-4)
※ Check flatness of FM output (See the next page)
NOT SATISFACTORY
Adjust the guide roller height.
SATISFACTORY
Adjust switching point
Set to the autotracking mode.
#
Is the phase difference between CTL pulse and SW25Hz 15ms±2ms?
YES
NO
Adjust X-value
Checking/adjustment completed

Checking procedure of the flatness and fluctuations of FM output and waveform diagrams

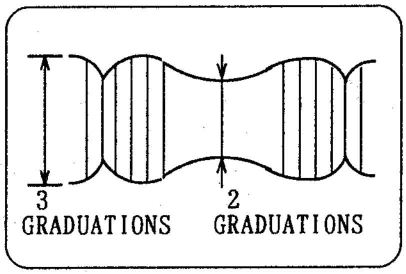
1) Set to the autotracking mode.



2) Fine tune the voltage level range of the oscilloscope to set the FM output to 4 graduations.



3) Press the tracking control buttons to set the maximum amplitude of the FM output to 3 graduations.
4) Check that the minimum amplitude is more than 2 graduations.



5) Check that the level fluctuations between the maximum and minimum amplitudes are less than 13%.

7. Tension/Torque Checks

Purpose: It is necessary to check the tension, torque and compression force at the tape take-up section and moving section to make the tape running smooth and satisfy the basic performance of the VTR. Check these if the tape running is not smooth or the tape speed is abnormal.

Test equipment/jigs	State of VTR
• Torque gauge • Torque gauge adaptor	• Set the VTR to each operation mode without inserting a cassette. (See page 3-11)

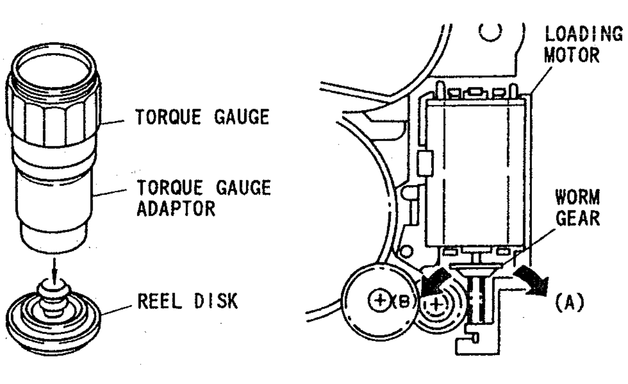
Item	VTR operation mode	Measured reel	Measured value
Main brake torque	Stop (Note)	Supply & take-up reels	100 ~ 250 g·cm
Slack removal torque	Unloading	Supply reel	120 ~ 250 g·cm
Fast forward torque	Fast forward	Take-up reel	400 g·cm or more
Rewind torque	Rewind	Supply reel	400 g·cm or more
Take-up torque	Play	Take-up reel	40 ~ 70 g·cm
Back-tension torque	Fast forward/Rewind	Supply and take-up reel	3 ~ 13 g·cm
REV. torque	Rev.	Supply reel	160 ~ 350 g·cm
Reverse play torque	Reverse play	Supply reel	160 ~ 250 g·cm
Slow torque	Slow	Take-up reel	25 ~ 70 g·cm

Checking method

The values are measured using a torque gauge and torque gauge adaptor with the torque gauge fixed.

Note: Turn the worm gear in the direction of arrow (A) to shift the mechanism state switch indication number to "3".
Then turn the worm gear in the direction of arrow (B) so the main brakes are applied to the reel disks.

Adjustment diagram



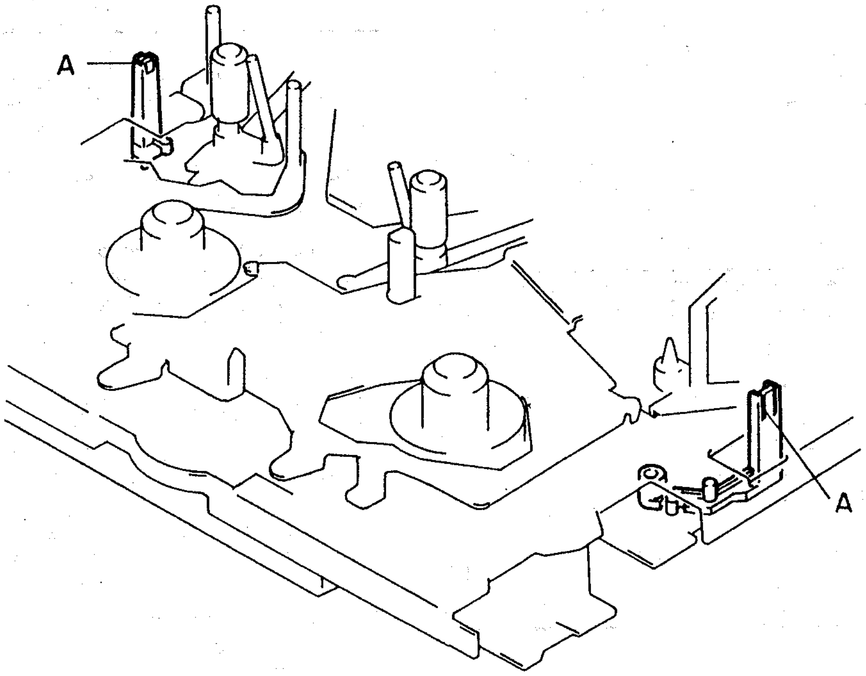
8. To Set the VTR to the Loading State without Inserting a Cassette

1) Remove the top cover and front panel.
2) Remove the cassette loading mechanism.
3) Unplug the mains lead form the AC outlet.
4) Cover the supply and take-up end sensors (sections A in the figure below) with black masking tape, etc. to shut off the light.
5) Plug the mains lead into the AC outlet.
6) Turn the VTR on.
   The VTR can accept the inputs of each mode in this state. However, the rewind operation cannot be performed for more than a few seconds because the take-up reel disk is in the stop state and reel pulses cannot be detected.

[Cautions]
Always return the VTR to the original state in the following order after the above operations have been performed.

1) Remove the masking tape, etc. from the supply and take-up end sensors.
2) Unplug the mains lead from the AC outlet to reset the main microprocessor.

Adjustment diagram



MAINTENANCE/INSPECTION PROCEDURE

1. Required Maintenance

The recording density of a VTR is much higher than that of an audio tape recorder. VTR components must be very precise, at tolerances of 1/1000 mm, to ensure compatible with other VTRs. If any of these components are worn or dirty, the symptoms will be the same as if the part is defective. To ensure a good picture, periodic inspection and maintenance, including replacement of worn-out parts and lubrications, is necessary.

2. Scheduled Maintenance

Schedules for maintenance and inspection are not fixed because they are greatly according to the way in which the customer uses the VTR, and the environment in which the VTR is used. But, in general home use, a good picture will be maintained if the inspection and maintenance is done every 1,000 hours. The table below shows the relation between time used and inspection period.
Refer to Table 4 in item 7 for the parts which must be maintained and inspected and details of the maintenance/inspection achedules.

Table 1

Average hours used per day	When inspection is necessary About 1 year ↓	 About 18 months ↓	 About 3 years ↓
One hour	▨	▨	▨
Two hours	▨	▨	
Three hours	▨		

3. Check before starting Repairs

The following faults can be remedied by cleaning and oiling. Check the need for lubrication and the conditions of cleanliness in the unit. Check with the customer to find out how often the unit is used. If from that you determine that the unit is ready for inspection and maintenance, check the following parts.

Table 2

Phenomenon	Inspection Location
Poor S/N, no colour	Dirt on video head or worn video head
Tape does not run or tape is slack	Dirt on pressure roller, reel belt or flywheel belt
Vertical jitter, horizontal jitter	Dirt on video head or in tape transport system
Colour beats	Dirt on full-erase head
Low volume or sound distorted	Dirt on audio/control head

4. Tools Needed for Inspection and Maintenance

(1) Head cleaning kit
(2) VTR oil kit
(3) Alcohol
(4) Gauze

Table 3 Locations for Greasing and Oiling using the Kit

Name	Oil or Greasing Location
Sonic Slidas Oil (#1600)	Oil low-speed rotating sections
Molicoat (PG-641)	Lubricate metal or molded sections under light load
Lock paint	Fix adjustment screws

The above oils and greases are in the kit prepared especially for VTR maintenance. Use this kit for lubrication.

5. Maintenance Procedures

5-1 Cleaning

(1) Cleaning video head

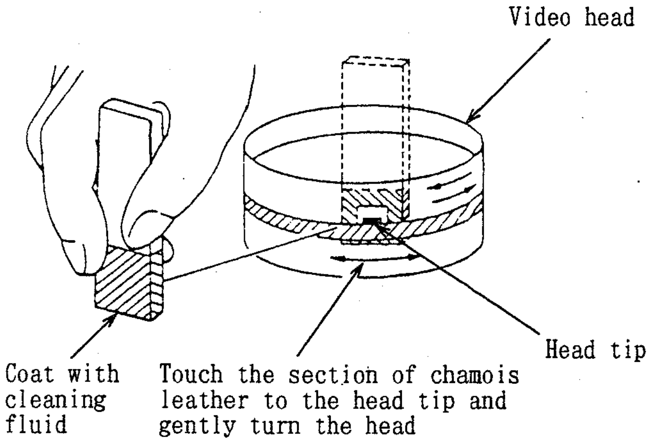
First use a cleaning tape. If dirt on head is too stubborn to remove by tape, use the cleaning kit. Moisten the cleaning stick with cleaning fluid at the point indicated. Touch the stick to the head tip and gently turn the head (rotating cylinder) to the right and left. (Do not move the stick vertically and make sure that only the chamois leather on the stick comes into contact with the head. Otherwise, the head may be damaged.) Thoroughly dry the head. Then test run a tape. If cleaning fluid remains on the video head, the tape may be damaged when it comes into contact with the head surface.

(2) Cleaning the tape transport system and drive system, ect.

Wipe with gauze moistened with alcohol.

Notes: 1) The tape transport system is the system which comes into contact with the running tape. The drive system consists of those parts which run the tape.

2) Make sure that during cleaning you do not touch the tape transport system with the tip of a screwdriver and that no force is applied to the system that could deform it.


Video head
Head tip
Coat with cleaning fluid
Touch the section of chamois leather to the head tip and gently turn the head

5-2 Lubrication

(1) Guidelines for lubricating with oil
Use the oiler to apply one or two drop of Sonic Slidas oil. Make sure not to use too much oil because it may spill over or leak out coming into contact with rotating parts and causing slippage or other problems. If too much oil is applied, wipe clean with alcohol.

(2) Periodic oil lubrication
Oil specified locations every 1,000 hours.

6. Inspection Locations

Phenomenon	Inspection Location	Replacement	
Colour beats	Dirt on full erase head		→①
Poor S/N, no colour	Dirt on video heads	○	→②
Vertical jitter	Dirt on video heads		→③
	Dirt in tape transport system		
Low volume, sound distorted	Dirt on audio/ control head	○	→④
Tape does not run. Tape is slack.	Dirt on pressure roller	○	→⑤

Note:
If locations marked with "○" do not operate normally after cleaning, they are worn. Replace.
See the EXPLODED VIEWS at the end of this manual as well as the above illustrations for the sections to be lubricated and greased.

5-3 Greasing

(1) Greasing guidelines
Apply grease Molicoat, with a stick or brush. Do not use excess grease. It may come into contact with the tape transport or drive system. Wipe any excess and clean with gauze moistened with alcohol.

(2) Periodic greasing
Grease specified locations every 5,000 hours.

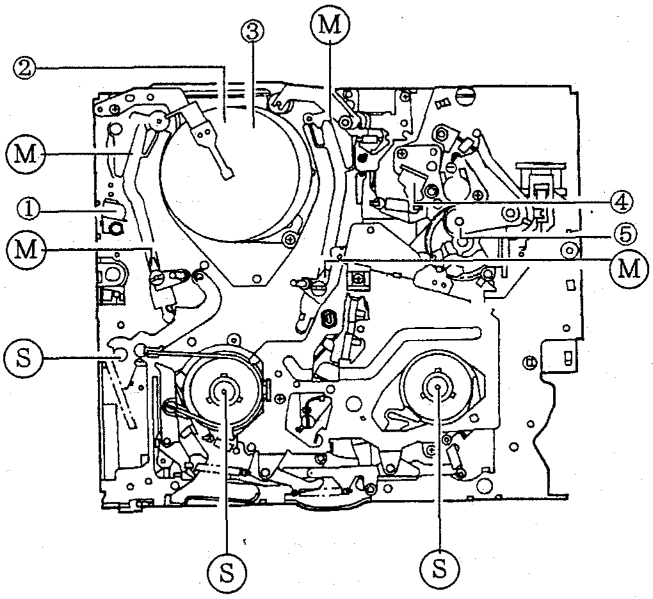


Fig. 1 Top View of Mechanism

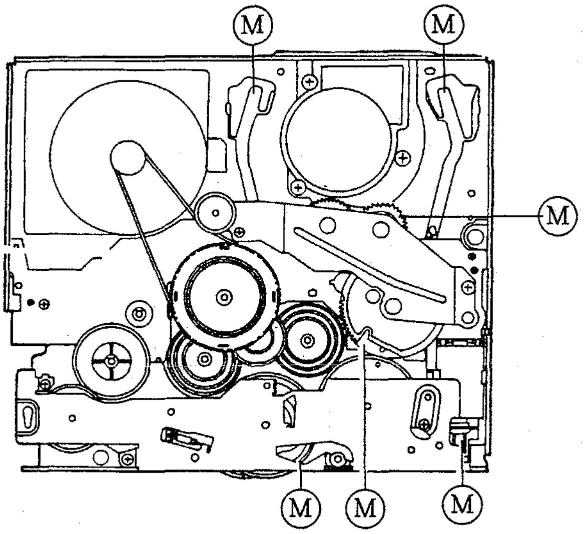


Fig. 3 Bottom View of Mechanism

Ⓢ : Sonic Slidas oil (oil locations)
Ⓜ : Molicoat (grease locations)

7. Parts to be Maintained/Inspected and Maintenance/Inspection Schedules

Caution: The following table does not apply to all the units. The maintenance/inspection schedules depend on the way in which the unit is used and the environment in which it is used.

Table 4

Parts and point of Maintenance	1000h	2000h	3000h	4000h	5000h
Video Head (Upper Cylinder)	C/R	C/R	C/R	C/R	C/R
Audio/Control (A/C) Head	C	C/R	C	R	C
Full Erase (FE) Head	C	C	C	R	C
Supply Guide Roller	C	C	C/R	C	C
Take-up Guide Roller	C	C	C/R	C	C
Tension Band		R		R	
Tension Arm	C	C	C	C	C
Supply Reel Disk		C		C	
Take-up Reel Disk		C		C	
Pressure Roller Arm	C	R	C	R	C
Drive Belt		C		C	
Capstan Motor	C	R	C	R	C
Loading Motor				R	
Cylinder Motor		R		R	
Mechanisim State Switch				(R)	
Reel Gear L		R		R	
Reel Gear R		R		R	
Reel Drive Idler		R		R	
Inclined Guide of Supply Guide Roller Base	C	C	C	C	C
Inclined Guide of Take up Guide Roller Base	C	C	C	C	C
Impedance Roller	C	C	C	C	C
Tape Guides (Guide Poles)	C	C	C	C	C
Lead of Lower Cylinder	C	C	C	C	C
Take-up Main Brake	C	C/R	C	C/R	C
Supply Main Brake	C	C/R	C	C/R	C
Head Cleaning Roller Assy.					(R)
Shaft of Supply Reel Disk		S		S	
Shaft of Take-up Reel Disk		S		S	
Shaft of Reel Gear L		S		S	
Shaft of Reel Gear R		S		S	
Shaft of Center Pulley		S		S	
Shaft of Pressure Roller Arm		M		M	
Guide Roller Base sliding part of Chassis					M
Contacting part of Cylinder Base and tip of Guide Roller Base					M
Contacting part of Tension Arm and Supply Guide Roller Base					M
Sliding part of chassis, Upper Plate and Pressure Roller Drive Arm					M

R : Part replacement
C : Cleaning
S : Oil (Sonic Slidas Oil) refilling
M : Grease (Molicoat) refilling

ELECTRIC CIRCUIT ADJUSTMENT

Test equipment and tapes necessary for adjustment

1) Dual-trace oscilloscope
2) Colour bar generator (PAL, SECAM)
3) VTVM
4) DC voltmeter
5) Frequency counter
6) CR oscillator
7) Monitor TV
8) Alignment tapes
   - MH-1 : Parts No. 7099046
   - MH-2 : Parts No. 7099052
   - MH-4 : Parts No. 7099053
   - 36HMAFE-3-1:Parts No. 7099175 (Hi-Fi Alignment tape)
9) Blank tape

Cautions on adjustments

1) If there are no special instructions, the following conditions apply.
   - Oscilloscope probe: 10:1
   - Oscilloscope synchronization: Internal sync
   - Earth of test equipment: TP 6 (GND) on Main P.C.B
   - Tracking control: Electrical centre (Press the TRACKING UP (▲) and DOWN (▼) buttons simultaneously to set tracking to the centre.)
   - Slow tracking control: Electrical centre (Unplug the mains lead from the AC outlet)
2) When making more than one adjustment, perform the adjustments in the order listed.
3) Be sure to perform the following adjustments after replacing IC902 (EAROM) on the main circuit board.
   - Reverse Slow Tracking Preset
   - Forward Slow Tracking Preset
   - Level Meter Adjustment

Servicing positions

The circuit boards can be set to the servicing positions as follows when servicing and adjusting the VTR.

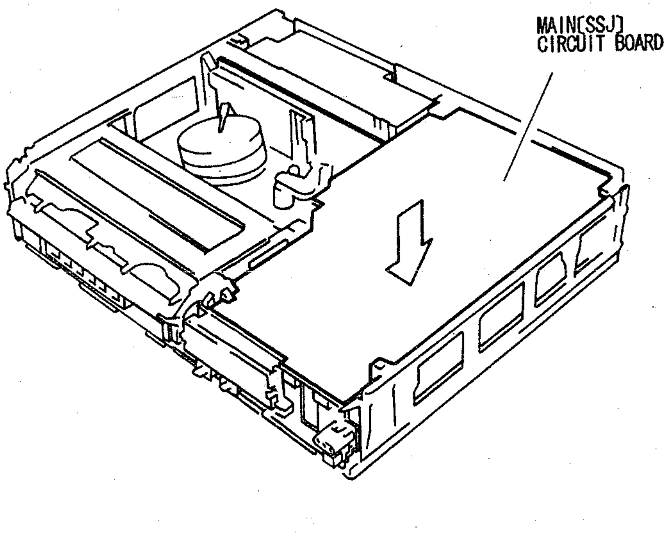


Fig. 1

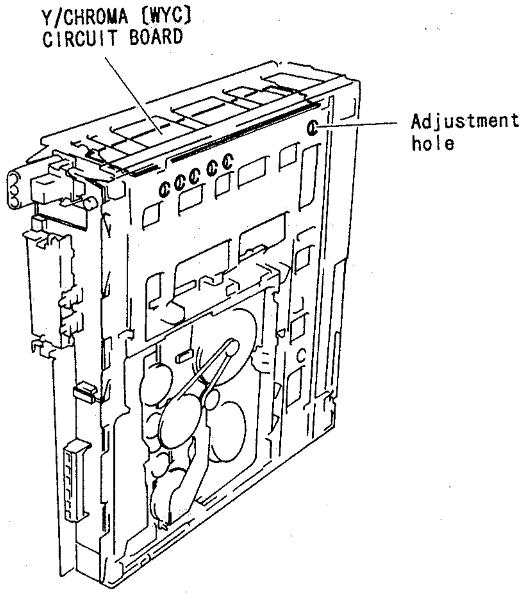


Fig. 2

Resetting the microprocessors

The microprocessors used in this unit can be reset by pressing switch (S729) on the Timer Circuit Board.

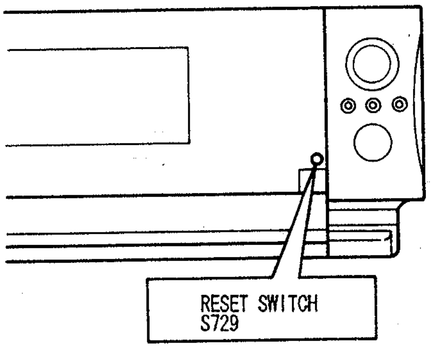
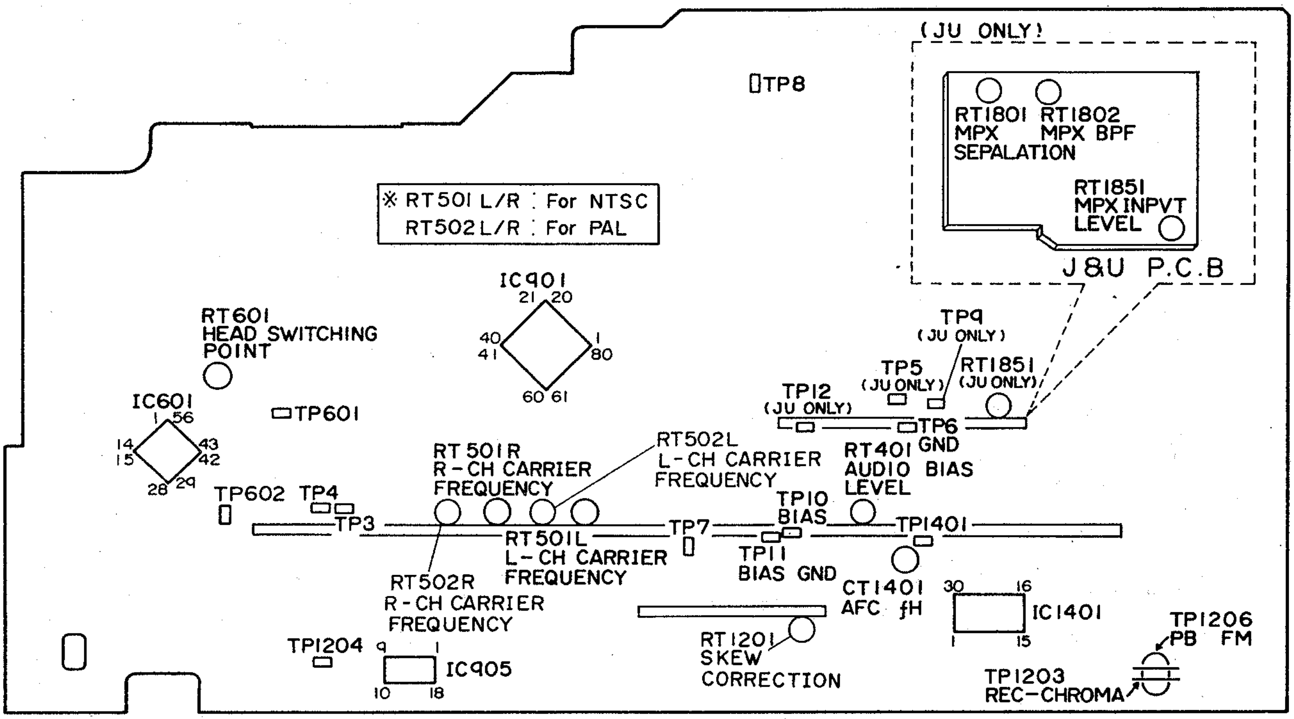


Fig. 3

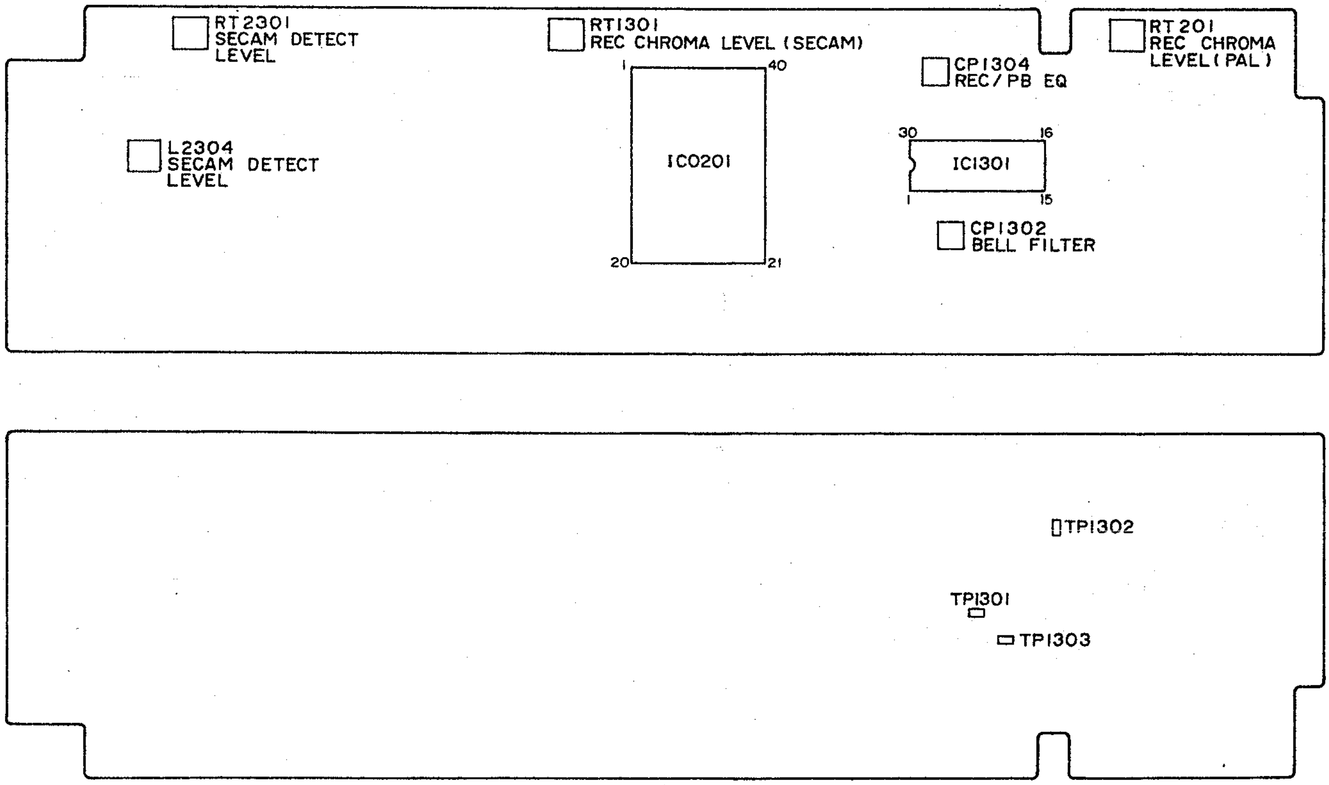
> The LP mode specified herewith is the PAL system and the EP mode is the NTSC system.

Adjustment Parts Locations



(JU ONLY)
TP8
RT1801 MPX SEPALATION
RT1802 MPX BPF
RT1851 MPX INPVT LEVEL
J&U P.C.B
※ RT501 L/R : For NTSC
RT502 L/R : For PAL
IC901
21 20
40 41
1 80
60 61
RT601 HEAD SWITCHING POINT
IC601
1 56
14 15
43 42
28 29
TP601
TP9 (JU ONLY)
TP5 (JU ONLY)
RT1851 (JU ONLY)
TP12 (JU ONLY)
TP6 GND
RT401 AUDIO LEVEL
BIAS
RT502L L-CH CARRIER FREQUENCY
RT501R R-CH CARRIER FREQUENCY
TP602
TP4
TP3
TP7
TP10 BIAS
TP1401
RT501L L-CH CARRIER FREQUENCY
TP11 BIAS GND
RT502R R-CH CARRIER FREQUENCY
CT1401 AFC ƒH
30 16
IC1401
1 15
TP1206 PB FM
TP1204
9 1
IC905
10 18
RT1201 SKEW CORRECTION
TP1203 REC-CHROMA

Fig. 1 Main (SSJ) Circuit Board (Solder Side)



RT2301 SECAM DETECT LEVEL
RT1301 REC CHROMA LEVEL (SECAM)
1 40
IC0201
20 21
CP1304 REC/PB EQ
RT201 REC CHROMA LEVEL (PAL)
L2304 SECAM DETECT LEVEL
30 16
IC1301
1 15
CP1302 BELL FILTER
TP1302
TP1301
TP1303

Fig. 2 Y/Chroma (WYC) Circuit Board

1. SERVO CIRCUIT ADJUSTMENTS

1. Head Switching Point Adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose: To set the video head switching point during play to approximately the centre where the CH-1 and CH-2 envelopes overlap each other.

Fault:
- The vertical sync signal is degraded and vertical jitter occurs.
- Switching noise appears across the bottom of the screen.

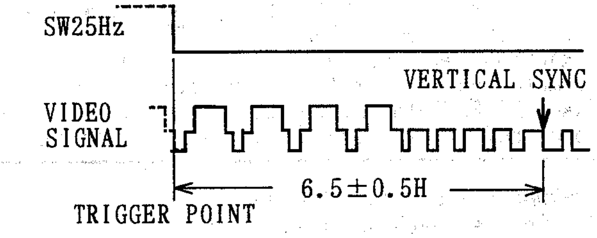
Test Equipment/Jigs	Test Equipment Connection Points	State of VTR	Adjustment Point
• Oscilloscope	• CH-1: VIDEO OUT • CH-2: TP601 (SW25Hz) [Main P.C.B]	• Play alignment tape (Stairsteps Section) • Tracking control: Electrical Centre	• RT601 (SWITCHING POINT)
• Alignment tape (MH-2 Parts No.7099052) (MH-4 Parts No.7099053)			

Adjustment Procedure

Vertical sync signal:
Set to 6.5H±0.5H from the trailing edge (trigger position) of the SW25Hz pulse.

<Settings of oscilloscope>
- Trigger with CH-2.
- Set the sync slope to "−".

Waveforms



2. Vert. Sync Adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose: Change timing for adding vertical drive pulse and suppress vertical jitter in picture during still play.

Fault: Vertical jitter occurs during still play.

Test Equipment/Jigs	Test Equipment Connection Points	State of VTR	Adjustment Point
• Monitor TV	• VIDEO OUT or RF OUT	• Record colour bar signal and play it back with this unit in STILL mode.	• TRACKING UP (Remote control) • TRACKING DOWN (Remote control)
• Colour bar generator (NTSC)	• VIDEO IN		
• Blank tape			

Adjustment Procedure

1) Tape speed : SP
2) TRACKING BUTTONS : Suppress vertical jitter in picture.
3) Tape speed : LP
4) TRACKING BUTTONS : Suppress vertical jitter in picture.

3. Reverse Slow Tracking Preset Adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose: To adjust the timing to generate a brake pulse for the capstan motor during reverse slow play and minimize noise.

Fault: Noise appears in the reverse slow motion picture which is difficult to see.

Test Equipment/Jigs	Test Equipment Connection Points	State of VTR	Adjustment Point
• Monitor TV	• VIDEO OUT or RF OUT	• Slow Tracking control: Electrical Centre	• TRACKING UP (Remote control) • TRACKING DOWN (Remote control)
• Colour bar generator (PAL/NTSC)	• VIDEO IN		
• Blank tape			

Adjustment Procedure

LP(EP) Slow Tracking Preset

1) Tape speed : LP(EP)
2) Record colour bar signals for several minutes.
3) Playback the section recorded in step 2).
4) Forcibly set the VTR to the reverse slow mode. Press the CH-▲ button of the VTR and the TRACKING (▲) and (▼) buttons of the remote control simultaneously during still play.
5) TRACKING BUTTONS: Distribute noise evenly in the upper and lower halves of the monitor screen.
6) Press the PLAY button to return the VTR to the play mode. When returned to the play mode, the preset data is written to the EAROM.

SP Slow Tracking Preset

Switch the tape speed to SP and perform the same as in steps 2) to 6) of the LP Slow Tracking Preset Adjustment.

4. Forward Slow Tracking Preset Adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose: To adjust the timing to generate a brake pulse for the capstan motor during forward slow play and minimize noise.	Fault: Noise appears in the forward slow motion picture which is difficult to see.

Test Equipment/Jigs	Test Equipment Connection Points	State of VTR	Adjustment Point
• Monitor TV	• VIDEO OUT or RF OUT	• Slow Tracking control: Electrical Centre	• TRACKING UP (Remote control) • TRACKING DOWN (Remote control)
• Colour bar generator (PAL/NTSC)	• VIDEO IN		
• Blank tape			

Adjustment Procedure

LP(EP) Forward Slow Tracking Preset

1) Tape speed : LP(EP)
2) Record colour bar signals for several minutes.
3) Playback the section recorded in step 2).
4) Forcibly set the VTR to the forward slow mode. Press the CH-▲ button of the VTR and the TRACKING (▲) and (▼) buttons of the remote control simultaneously during play.
5) TRACKING BUTTONS: Distribute noise evely in the upper and lower halves of the monitor screen.
6) Press the PLAY button to return the VTR to the play mode. When returned to the play mode, the preset data is written to the EAROM.

SP Slow Tracking Preset

Switch the tape speed to SP and perform the same as in steps 2) to 6) of the LP Slow Tracking Preset Adjustment.

2. Y/CHROMA CIRCUIT ADJUSTMENTS

1. Rec Chroma Level Adjustment

Purpose of adjustment and fault occurring if incomplete

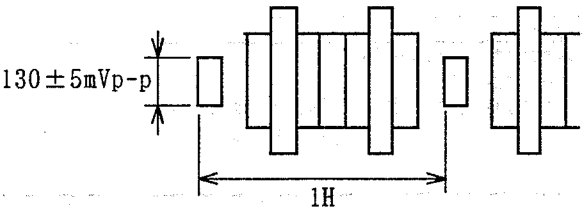
Purpose: Set the record chroma levels to the optimum values.	Fault: • Diamond beats occur in the played back picture or colouring becomes poor. • The played back picture becomes dark and noise increases, or the picture glares and becomes whitish.

Test Equipment/Jigs	Test Equipment Connection Points	State of VTR	Adjustment Point
• Oscilloscope	• TP1203	• REC mode • LP mode	• RT201
• Colour bar generator (PAL)	• VIDEO IN		
• Blank tape			

Adjustment Procedure

1) RT201 : Set the record chroma level to 130±5mVp-p.

Waveform



2. Secam Detect. Level Adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose: Set the Secam detect level to the specified value.	Fault: During automatic discrimination PAL and SECAM are discriminated incorrectly.

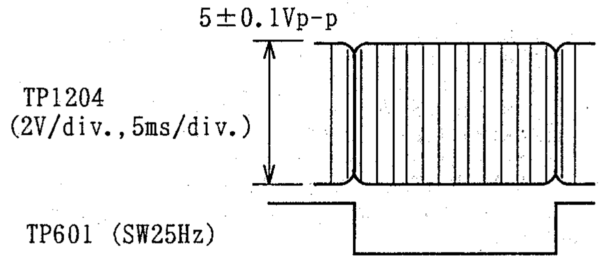
Test Equipment/Jigs	Test Equipment Connection Points	State of VTR	Adjustment Point
• Oscilloscope	• CH-1: TP1204 • CH-2: TP601 (SW25Hz)	• REC mode	• RT2301 • L2304
• Colour bar generator (SECAM)	• VIDEO IN		
• Blank tape			

Adjustment Procedure

1) RT2301: Adjust the amplitude of the waveform to 5.0±0.1Vp-p.
2) If the above value cannot be obtained, adjust L2304.

〈Oscilloscope Setting〉
- Trigger with CH-2

Waveforms



3. Rec Chroma Level Adjustment

Purpose of adjustment and fault occurring if incomplete

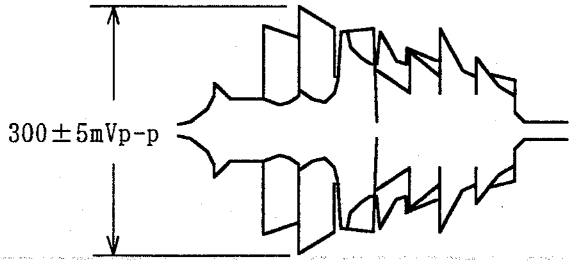
Purpose	Fault
Set the record chroma levels to the optimum values.	• Diamond beats occur in the played back picture or colouring becomes poor. • The played back picture becomes dark and noise increases, or the picture glares and becomes whitish.

Test Equipment/Jigs	Test Equipment Connection Points	State of VTR	Adjustment Point
• Oscilloscope	• TP1203	• REC mode	• RT1301
• Colour bar generator (SECAM)	• VIDEO IN		
• Blank tape			

Adjustment Procedure

1) RT1301 : Set the record chroma level to 300±5mVp-p.

Waveform



4. Rec/PB EQ Adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose	Fault
To adjust the frequency (fo) during play and recording to the specified value.	• The chroma level fluctuates.

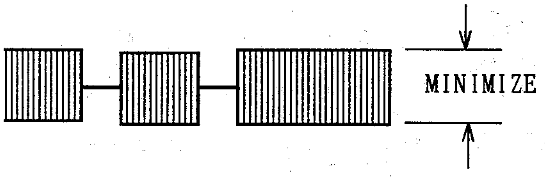
Test Equipment/Jigs	Test Equipment Connection Points	State of VTR	Adjustment Point
• Colour bar generator (SECAM)	• VIDEO IN	• E-E mode	• CP1304
• Oscilloscope	• TP1302		
• Audio generator	• TP1303		

Adjustment Procedure

Audio generator output level :
1.0715±0.01MHz, AC200±10mV

1) CP1304 : Reduce the output level to minimum.

Waveform



5. Bell Filter Adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose	Fault
To adjust the frequency (fo) of the bell filter to the specified value.	• The chroma level fluctuates

Test Equipment/Jigs	Test Equipment Connection Points	State of VTR	Adjustment Point
• Oscilloscope	• TP1301	• EE mode • SECAM mode	• CP1302
• Colour bar generator (SECAM)	• VIDEO IN		

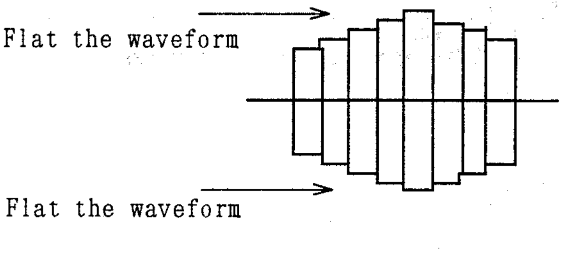
Adjustment Procedure

1) CP1302 : Flatten the overall colour bar signal.

⟨Oscilloscope Setting⟩

• Trigger with VIDEO OUT

Waveform



6.Y-Flicker Level Adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose: To minimize the flicker on the screen.

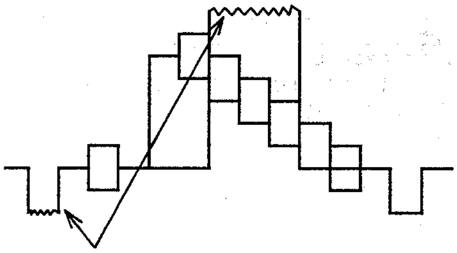
Fault:
- Skew or flicking occurs on screen causing the picture to be distorted.

Test Equipment/Jigs	Test Equipment Connection Points	State of VTR	Adjustment Point
• Oscilloscope	• VIDEO OUT	• Play back alignment tape	• RT1201
• Alignment tape (MH-1 Parts No.7099046)			

Adjustment Procedure

1) Adjustment RT1201 so the luminance level fluctuation is minimum.

Waveform



Adjustment RT1201 so the luminance level fluctuation is minimum

3. AUDIO CIRCUIT ADJUSTMENTS

1.Carrier Frequency Adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose: Set the audio carrier frequency to the specified value.

Fault:
- Compatibility with tapes recorded by another VTR cannot be obtained.
- Hi-Fi audio is not played back.

Test Equipment/Jigs	Test Equipment Connection Points	State of VTR	Adjustment Point
• Frequency counter • Blank tape	• TP4 (when adjusting RT501L,RT502L) • TP3 (when adjusting RT501R,RT502R)	• REC mode	• RT501L (L-CH) • RT501R (R-CH) • RT502L (L-CH) • RT502R (R-CH)

Adjustment Procedure

NTSC mode

1) Short-circuit between TP7(NTSC/PAL) and TP8(A5.4V).
2) RT501L : The frequency counter reads 1300kHz±4kHz at TP4.
3) RT501R : The frequency counter reads 1700kHz±4kHz at TP3.
4) Remove the short-circuit.

PAL mode

5) Short-circuit between TP6(GND) and TP7(NTSC/PAL).
6) RT502L : The frequency counter reads 1400kHz±4kHz at TP4.
7) RT502R : The frequency counter reads 1800kHz±4kHz at TP3.
8) Remove the short-circuit.

2. Audio Bias Level adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose: Set audio bias during recording to optimum level.

Fault:
- Bias too High: High-frequensy response deteriorates.
- Bias too Low: Sound tends to be distorted.

Test Equipment/Jigs	Test Equipment Connection Points	State of VTR	Adjustment Point
• VTVM • Blank tape	• TP10 (BIAS) • TP11 (BIAS GND)	• Non-signal recording (PAL mode)	• RT401

Adjustment Procedure

RT401: The VTVM reads 3.1mVrms±0.1mVrms.

4. OSD CIRCUIT ADJUSTMENT

1. AFC fH Adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose: Set the AFC VCO to the specified value.

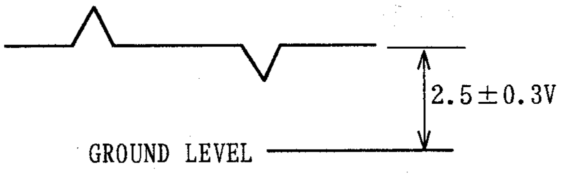
Fault: OSD characters are flowed.

Test Equipment/Jigs	Test Equipment Connection Points	State of VTR	Adjustment Point
• Oscilloscope	• CH-1: TP1401 [Main P.C.B]	• EE mode	• CT1401
• Colour bar genarator (PAL)	• VIDEO IN		

Adjustment Procedure

1) Adjust to the 2.5±0.3V position from the ground level.

Waveform



5. TIMER CIRCUIT ADJUSTMENT

1. Level Meter Adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose: To make the level meter operate correctly.

Fault: The level meter does not operate normally.

Test Equipment/Jigs	Test Equipment Connection Points	State of VTR	Adjustment Point
• CR oscillator	• AUDIO IN-(L) • AUDIO OUT-(L)	• AUX mode • E-E mode	• TRACKING UP/DOWN (Remote control) • STOP button
• VTVM			

Adjustment Procedure

1) Connect a VTVM to the AUDIO OUT-(L) terminal.
2) Connect a CR oscillator to the AUDIO IN-(L) terminal.
3) Adjust the audio output of the CR oscillator so the VTVM reads -4.8 to -5.3dBs. (The frequency should be 1kHz.)
4) Press and hold the STOP button (for more than 1 second) while simultaneously holding both TRACKING buttons (▲/▼) of the remote control depressed and check that the 0dB segments of the level meter light.
5) If the above cannot be confirmed, perform readjustment and then check IC902 (EAROM).

6. MPX AUDIO CIRCUIT ADJUSTMENTS (JU ONLY)

1. MPX Input Level Adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose: To set the level of the MPX signal supplied to the MTS processor in IC1851 from the tuner/IF to the specified level.

Fault: The S/N deteriorates or distortion becomes conspicuous.

Test Equipment/Jigs	Test Equipment Connection Points	State of VTR	Adjustment Point
• MTS sound signal generator	• VHF IN	• E-E mode	• RT1851(MPX LEVEL)
• VTVM	• TP12		

Adjustment Procedure

1) RT1851 : Set the reading of the VTVM to -20.5dBs±0.1dBs (73mV±3mVrms).

NOTE: MTS sound signal generator settings
- Audio Freq. : 400Hz
- Mod. signal : L+R

2. MPX Bandpass Filter Adjustment (Can be done from the side of the VTR)

Purpose of adjustment and fault occurring if incomplete

Purpose: To set the frequency response of the bandpass filter used to separate the sub signal and Q signal to the specified bandwidth.

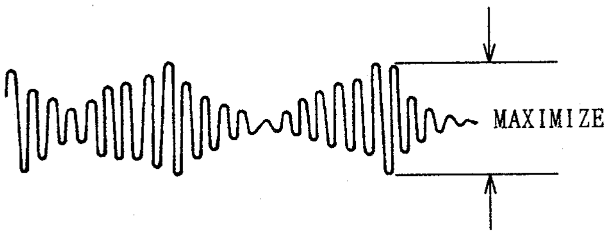
Fault:
- Stereo and sound multiplex programme cannot be discriminated.
- Separation of the L and R channels or main and sub audio signals is degraded.

Test Equipment/Jigs	Test Equipment Connection Points	State of VTR	Adjustment Point
· Osilloscope	· TP9	· Receive a stereo programme.	· RT1802 (on the MPX board)

Adjustment Procedure

1) Short TP5 and TP6.
2) RT1802: Adjust the FM output level to a maximum.

Waveform



3. MPX Separation Adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose: To optimize the separation of the L and R channels when a stereo or sound multiplex programme is received.

Fault: The separation of L(main audio) and R(sub audio) channels is degraded.

Test Equipment/Jigs	Test Equipment Connection Points	State of VTR	Adjustment Point
· Monitor TV (That can handle a sound multiplex programme)	· AUDIO OUT (L/R)	· Receive a stereo or sound multiplex programme. · Audio monitor: Hi-Fi mode. (Switched by the remote control)	· RT1801

Adjustment Procedure

- When receiving a stereo programme:
  Optimize the channel separatio.
- When receiving a sound multiplex programme:
  Main and sub audio should not be mixed.

CHAPTER 5

SCHEMATIC & CIRCUIT BOARD DIAGRAMS

MODEL : VT-F90EM(HKN)
VT-F90EM(SWN)
VT-F90EM(JU)

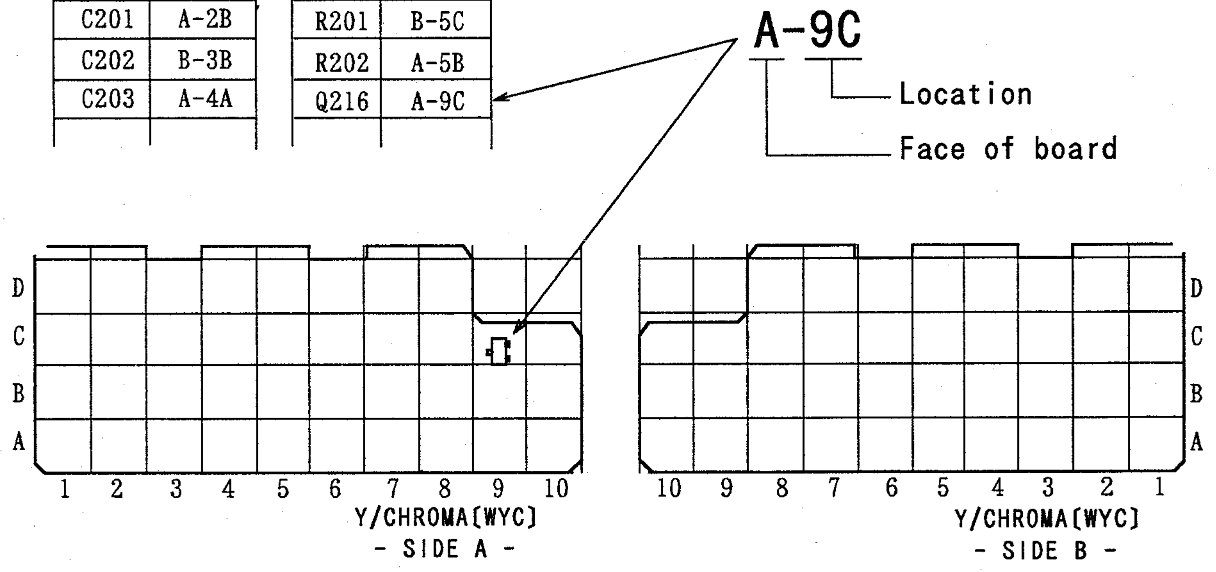
[Parts Location Indexing Tables]

This service manual shows the parts location indexing tables beside the major circuit board diagrams. These tables indicate the locations of each part on the circuit boards. Use the tables to locate the parts on the circuit boards.

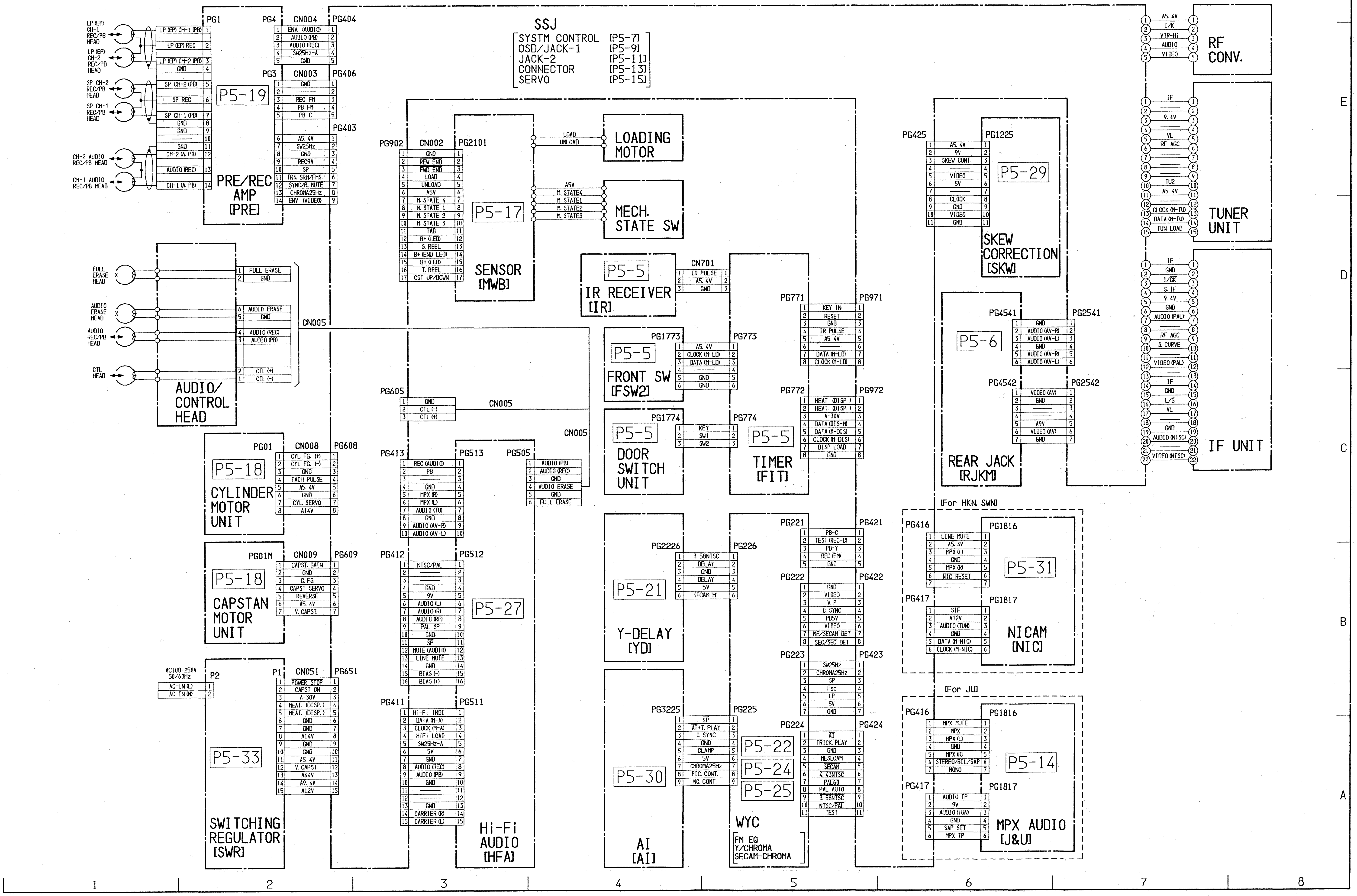
IDENTIFICATION OF PARTS LOCATION

Symbol No.	Parts Location
C201	A-2B
C202	B-3B
C203	A-4A

Symbol No.	Parts Location
R201	B-5C
R202	A-5B
Q216	A-9C

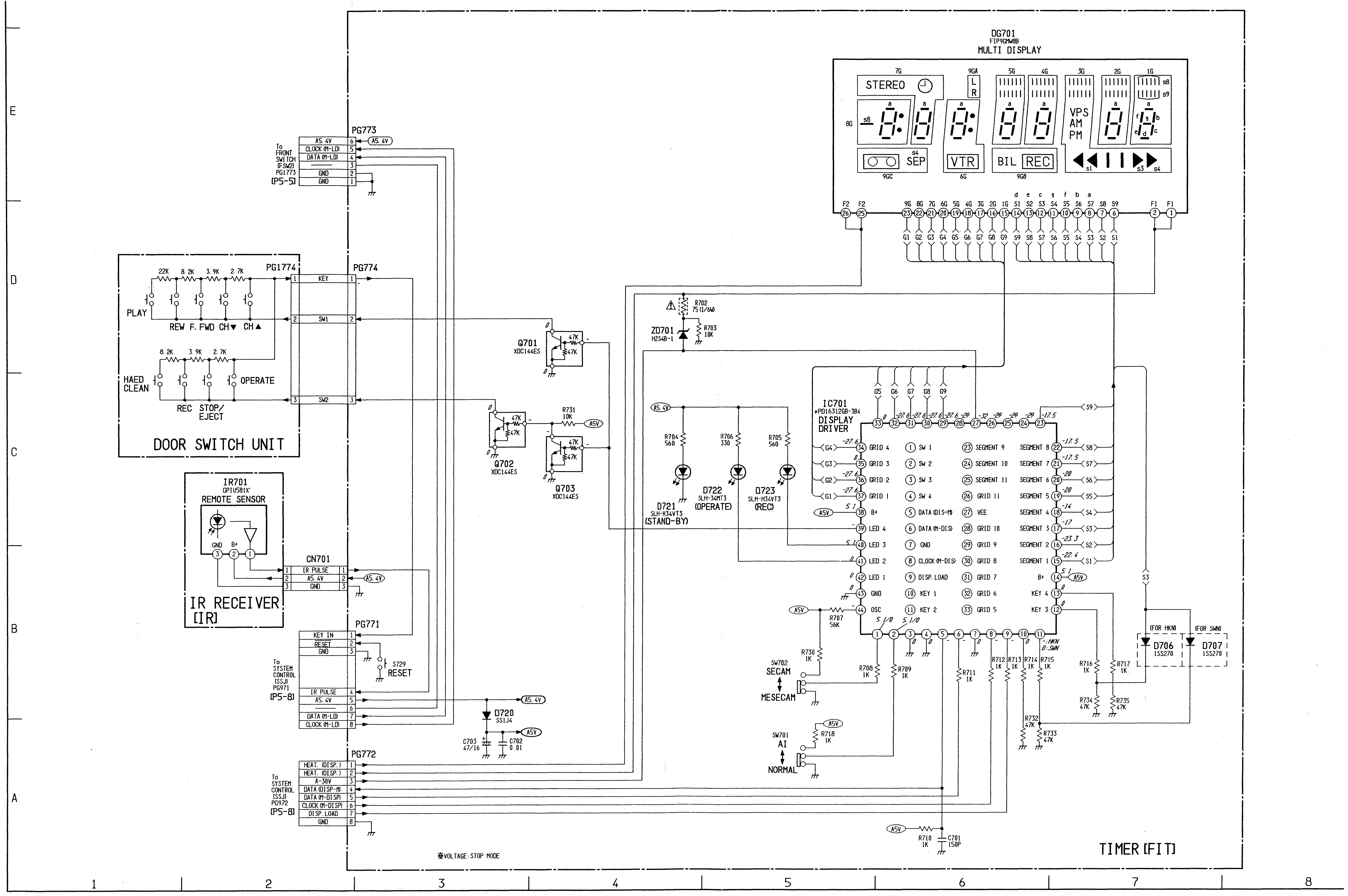

A-9C
Location
Face of board
D
C
B
A
1
2
3
4
5
6
7
8
9
10
Y/CHROMA〔WYC〕
- SIDE A -
10
9
8
7
6
5
4
3
2
1
Y/CHROMA〔WYC〕
- SIDE B -

INTERNAL WIRING DIAGRAM

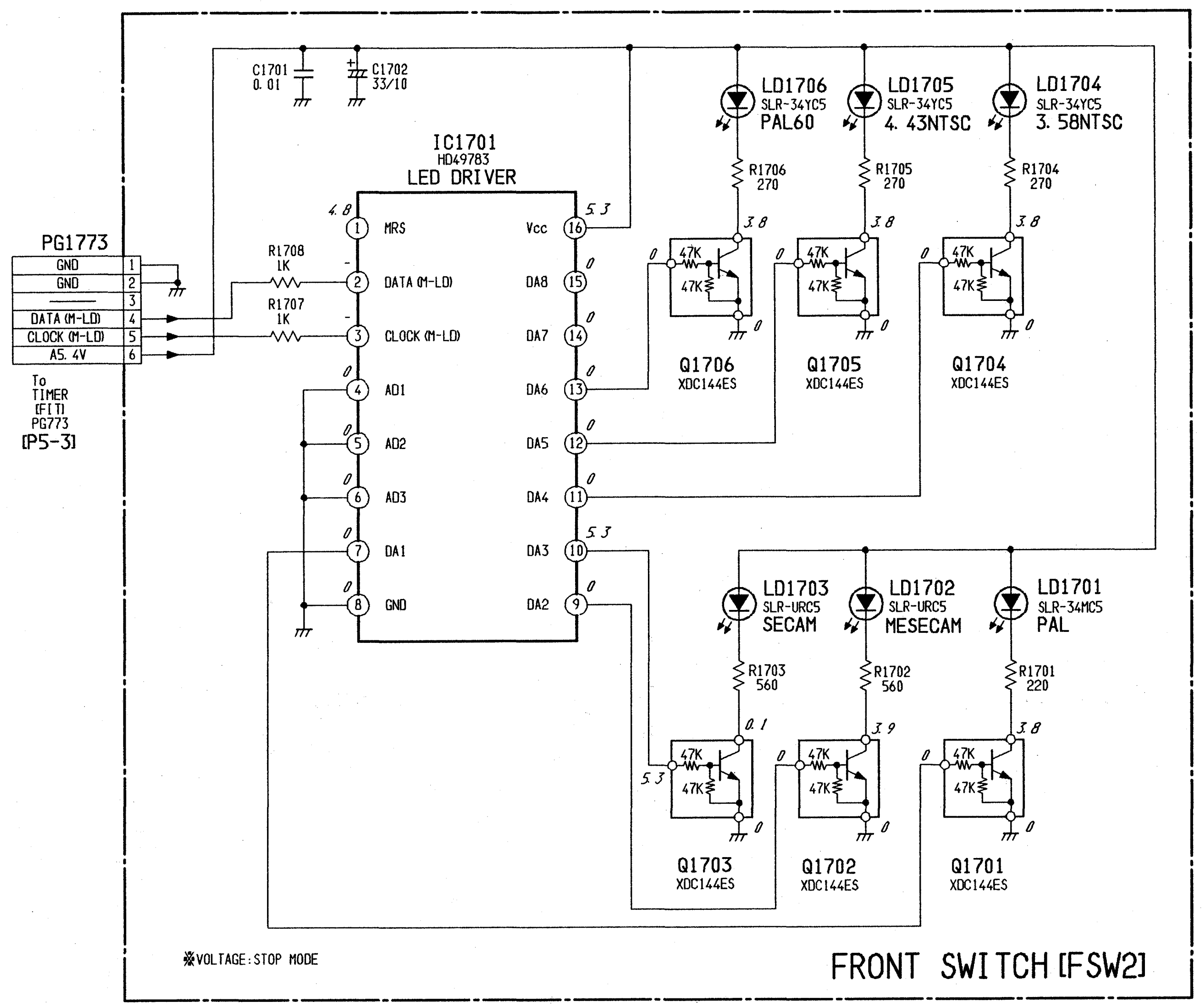


LP (EP) CH-1 REC/PB HEAD
LP (EP) CH-2 REC/PB HEAD
SP CH-2 REC/PB HEAD
SP CH-1 REC/PB HEAD
CH-2 AUDIO REC/PB HEAD
CH-1 AUDIO REC/PB HEAD
PG1
1 LP (EP) CH-1 (PB)
2 LP (EP) REC
3 LP (EP) CH-2 (PB)
4 GND
5 SP CH-2 (PB)
6 SP REC
7 SP CH-1 (PB)
8 GND
9 GND
10
11 GND
12 CH-2 (A. PB)
13 AUDIO (REC)
14 CH-1 (A. PB)
P5-19
PRE/REC AMP [PRE]
PG4
CN004
PG404
1 ENV. (AUDIO)
2 AUDIO (PB)
3 AUDIO (REC)
4 SW25Hz-A
5 GND
PG3
CN003
PG406
1 GND
2
3 REC FM
4 PB FM
5 PB C
PG403
1 A5. 4V
2 SW25Hz
3 GND
4 REC9V
5 SP
6 TRN. SRH/FHS.
7 SYNC/R. MUTE
8 CHROMA25Hz
9 ENV. (VIDEO)
SSJ
SYSTM CONTROL [P5-7]
OSD/JACK-1 [P5-9]
JACK-2 [P5-11]
CONNECTOR [P5-13]
SERVO [P5-15]
PG902
CN002
PG2101
1 GND
2 REW END
3 FWD END
4 LOAD
5 UNLOAD
6 A5V
7 M. STATE 4
8 M. STATE 1
9 M. STATE 2
10 M. STATE 3
11 TAB
12 B+ (LED)
13 S. REEL
14 B+ (END LED)
15 B+ (LED)
16 T. REEL
17 CST UP/DOWN
P5-17
SENSOR [MWB]
LOAD
UNLOAD
LOADING MOTOR
A5V
M. STATE4
M. STATE1
M. STATE2
M. STATE3
MECH. STATE SW
P5-5
IR RECEIVER [IR]
CN701
1 IR PULSE
2 A5. 4V
3 GND
FULL ERASE HEAD
AUDIO ERASE HEAD
AUDIO REC/PB HEAD
CTL HEAD
1 FULL ERASE
2 GND
6 AUDIO ERASE
5 GND
4 AUDIO (REC)
3 AUDIO (PB)
2 CTL (+)
1 CTL (-)
CN005
AUDIO/ CONTROL HEAD
PG605
1 GND
2 CTL (-)
3 CTL (+)
CN005
CN005
PG1773
P5-5
FRONT SW [FSW2]
PG773
1 A5. 4V
2 CLOCK (M-LD)
3 DATA (M-LD)
4
5 GND
6 GND
PG771
PG971
1 KEY IN
2 RESET
3 GND
4 IR PULSE
5 A5. 4V
6
7 DATA (M-LD)
8 CLOCK (M-LD)
PG772
PG972
1 HEAT. (DISP.)
2 HEAT. (DISP.)
3 A-30V
4 DATA (DIS-M)
5 DATA (M-DIS)
6 CLOCK (M-DIS)
7 DISP. LOAD
8 GND
PG1774
PG774
1 KEY
2 SW1
3 SW2
P5-5
DOOR SWITCH UNIT
P5-5
TIMER [FIT]
PG01
CN008
PG608
P5-18
CYLINDER MOTOR UNIT
1 CYL. FG (+)
2 CYL. FG (-)
3 GND
4 TACH PULSE
5 A5. 4V
6 GND
7 CYL. SERVO
8 A14V
PG01M
CN009
PG609
P5-18
CAPSTAN MOTOR UNIT
1 CAPST. GAIN
2 GND
3 C.FG
4 CAPST. SERVO
5 REVERSE
6 A5. 4V
7 V. CAPST.
AC100-250V 50/60Hz
P2
1 AC-IN (L)
2 AC-IN (N)
P1
CN051
PG651
1 POWER STOP
2 CAPST ON
3 A-30V
4 HEAT. (DISP.)
5 HEAT. (DISP.)
6 GND
7 GND
8 A14V
9 GND
10 GND
11 A5. 4V
12 V. CAPST.
13 A44V
14 A9. 4V
15 A12V
P5-33
SWITCHING REGULATOR [SWR]
PG413
PG513
1 REC (AUDIO)
2 PB
3
4 GND
5 MPX (R)
6 MPX (L)
7 AUDIO (TU)
8 GND
9 AUDIO (AV-R)
10 AUDIO (AV-L)
PG505
1 AUDIO (PB)
2 AUDIO (REC)
3 GND
4 AUDIO ERASE
5 GND
6 FULL ERASE
PG412
PG512
1 NTSC/PAL
2
3
4 GND
5 9V
6 AUDIO (L)
7 AUDIO (R)
8 AUDIO (RF)
9 PAL SP
10 GND
11 SP
12 MUTE (AUDIO)
13 LINE MUTE
14 GND
15 BIAS (-)
16 BIAS (+)
P5-27
PG411
PG511
1 Hi-Fi INDI.
2 DATA (M-A)
3 CLOCK (M-A)
4 HiFi LOAD
5 SW25Hz-A
6 5V
7 GND
8 AUDIO (REC)
9 AUDIO (PB)
10 GND
11
12
13 GND
14 CARRIER (R)
15 CARRIER (L)
Hi-Fi AUDIO [HFA]
PG2226
PG226
1 3.58NTSC
2 DELAY
3 GND
4 DELAY
5 5V
6 SECAM 'H'
P5-21
Y-DELAY [YD]
PG221
PG421
1 PB-C
2 TEST (REC-C)
3 PB-Y
4 REC (FM)
5 GND
PG222
PG422
1 GND
2 VIDEO
3 V.P
4 C. SYNC
5 PB5V
6 VIDEO
7 ME/SECAM DET
8 SEC/SEC DET
PG223
PG423
1 SW25Hz
2 CHROMA25Hz
3 SP
4 Fsc
5 LP
6 5V
7 GND
PG3225
PG225
1 SP
2 AI+T. PLAY
3 C. SYNC
4 GND
5 CLAMP
6 5V
7 CHROMA25Hz
8 PIC CONT.
9 NC CONT.
P5-30
AI [AI]
PG224
PG424
1 AI
2 TRICK PLAY
3 GND
4 MESECAM
5 SECAM
6 4.43NTSC
7 PAL60
8 PAL AUTO
9 3.58NTSC
10 NTSC/PAL
11 TEST
P5-22
P5-24
P5-25
WYC
FM EQ
Y/CHROMA
SECAM-CHROMA
PG425
PG1225
1 A5. 4V
2 9V
3 SKEW CONT.
4
5 VIDEO
6 5V
7
8 CLOCK
9 GND
10 VIDEO
11 GND
P5-29
SKEW CORRECTION [SKW]
PG4541
PG2541
1 GND
2 AUDIO (AV-R)
3 AUDIO (AV-L)
4 GND
5 AUDIO (AV-R)
6 AUDIO (AV-L)
P5-6
PG4542
PG2542
1 VIDEO (AV)
2 GND
3
4
5 A9V
6 VIDEO (AV)
7 GND
REAR JACK [RJKM]
[For HKN, SWN]
PG416
PG1816
1 LINE MUTE
2 A5. 4V
3 MPX (L)
4 GND
5 MPX (R)
6 NIC RESET
7
P5-31
PG417
PG1817
1 SIF
2 A12V
3 AUDIO (TUN)
4 GND
5 DATA (M-NIC)
6 CLOCK (M-NIC)
NICAM [NIC]
[For JU]
PG416
PG1816
1 MPX MUTE
2 MPX
3 MPX (L)
4 GND
5 MPX (R)
6 STEREO/BIL/SAP
7 MONO
P5-14
PG417
PG1817
1 AUDIO TP
2 9V
3 AUDIO (TUN)
4 GND
5 SAP SET
6 MPX TP
MPX AUDIO [J&U]
① A5. 4V
② I/K
③ VTR-Hi
④ AUDIO
⑤ VIDEO
RF CONV.
① IF
②
③ 9. 4V
④
⑤ VL
⑥ RF AGC
⑦
⑧
⑨
⑩ TU2
⑪ A5. 4V
⑫
⑬ CLOCK (M-TU)
⑭ DATA (M-TU)
⑮ TUN. LOAD
TUNER UNIT
① IF
② GND
③ I/GK
④ S. IF
⑤ 9. 4V
⑥ GND
⑦ AUDIO (PAL)
⑧
⑨ RF AGC
⑩ S. CURVE
⑪
⑫ VIDEO (PAL)
⑬
⑭ IF
⑮ GND
⑯ L/G
⑰ VL
⑱
⑲ GND
⑳ AUDIO (NTSC)
㉑
㉒ VIDEO (NTSC)
IF UNIT
E
D
C
B
A
1
2
3
4
5
6
7
8

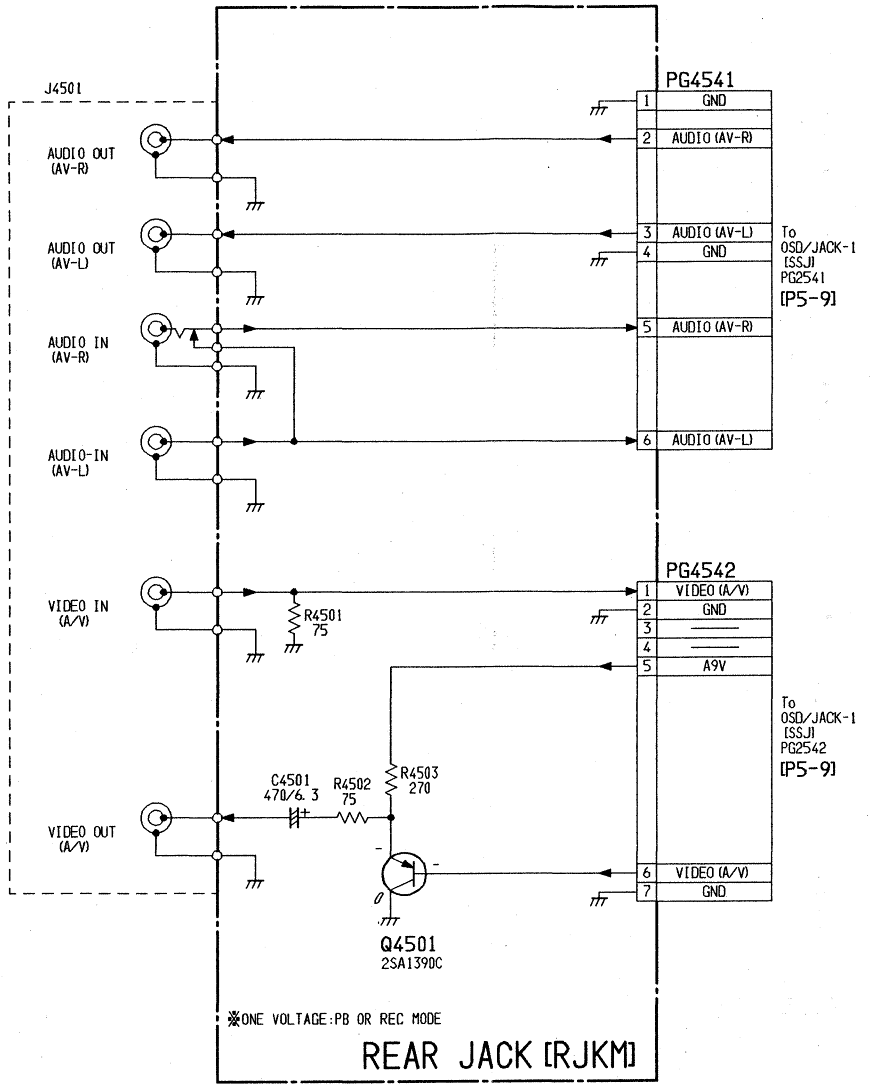
TIMER [FIT], IR RECEIVER [IR], DOOR SWITCH UNIT SCHEMATIC DIAGRAMS


DG701
FIP9GM8B
MULTI DISPLAY
STEREO
VPS
AM
PM
SEP
VTR
BIL
REC
PG773
A5.4V
CLOCK (M-LD)
DATA (M-LD)
GND
To FRONT SWITCH [FSW2] PG1773 [P5-5]
PG1774
PG774
KEY
SW1
SW2
22K
8.2K
3.9K
2.7K
PLAY
REW
F.FWD
CH▼
CH▲
HAED CLEAN
REC
STOP/EJECT
OPERATE
DOOR SWITCH UNIT
Q701
XDC144ES
Q702
XDC144ES
Q703
XDC144ES
R731
10K
47K
R702
75 (1/6W)
ZD701
HZS4B-1
R703
10K
R704
560
R706
330
R705
560
D721
SLH-H34VT3
(STAND-BY)
D722
SLH-34MT3
(OPERATE)
D723
SLH-H34VT3
(REC)
IC701
μPD16312GB-3B4
DISPLAY DRIVER
GRID 1
GRID 2
GRID 3
GRID 4
B+
LED 1
LED 2
LED 3
LED 4
GND
OSC
SW 1
SW 2
SW 3
SW 4
DATA (DIS-M)
DATA (M-DIS)
CLOCK (M-DIS)
DISP. LOAD
KEY 1
KEY 2
SEGMENT 9
SEGMENT 10
SEGMENT 11
GRID 11
VEE
GRID 10
GRID 9
GRID 8
GRID 7
GRID 6
GRID 5
SEGMENT 1
SEGMENT 2
SEGMENT 3
SEGMENT 4
SEGMENT 5
SEGMENT 6
SEGMENT 7
SEGMENT 8
KEY 3
KEY 4
IR701
GP1U581X
REMOTE SENSOR
CN701
IR PULSE
A5.4V
GND
IR RECEIVER [IR]
PG771
KEY IN
RESET
S729
RESET
To SYSTEM CONTROL [SSJ] PG971 [P5-8]
D720
SS1J4
C703
47/16
C702
0.01
PG772
HEAT. (DISP.)
A-30V
DATA (DISP-M)
DATA (M-DISP)
CLOCK (M-DISP)
DISP. LOAD
To SYSTEM CONTROL [SSJ] PG972 [P5-8]
R707
56K
R730
1K
SW702
SECAM
MESECAM
SW701
AI
NORMAL
R718
1K
R708
1K
R709
1K
R711
1K
R712
1K
R713
1K
R714
1K
R715
1K
R716
1K
R717
1K
R732
47K
R733
47K
R734
47K
R735
47K
[FOR HKN]
D706
1SS270
[FOR SWN]
D707
1SS270
-:HKN
0:SWN
R710
1K
C701
150P
※VOLTAGE:STOP MODE
TIMER [FIT]
A
B
C
D
E
1
2
3
4
5
6
7
8

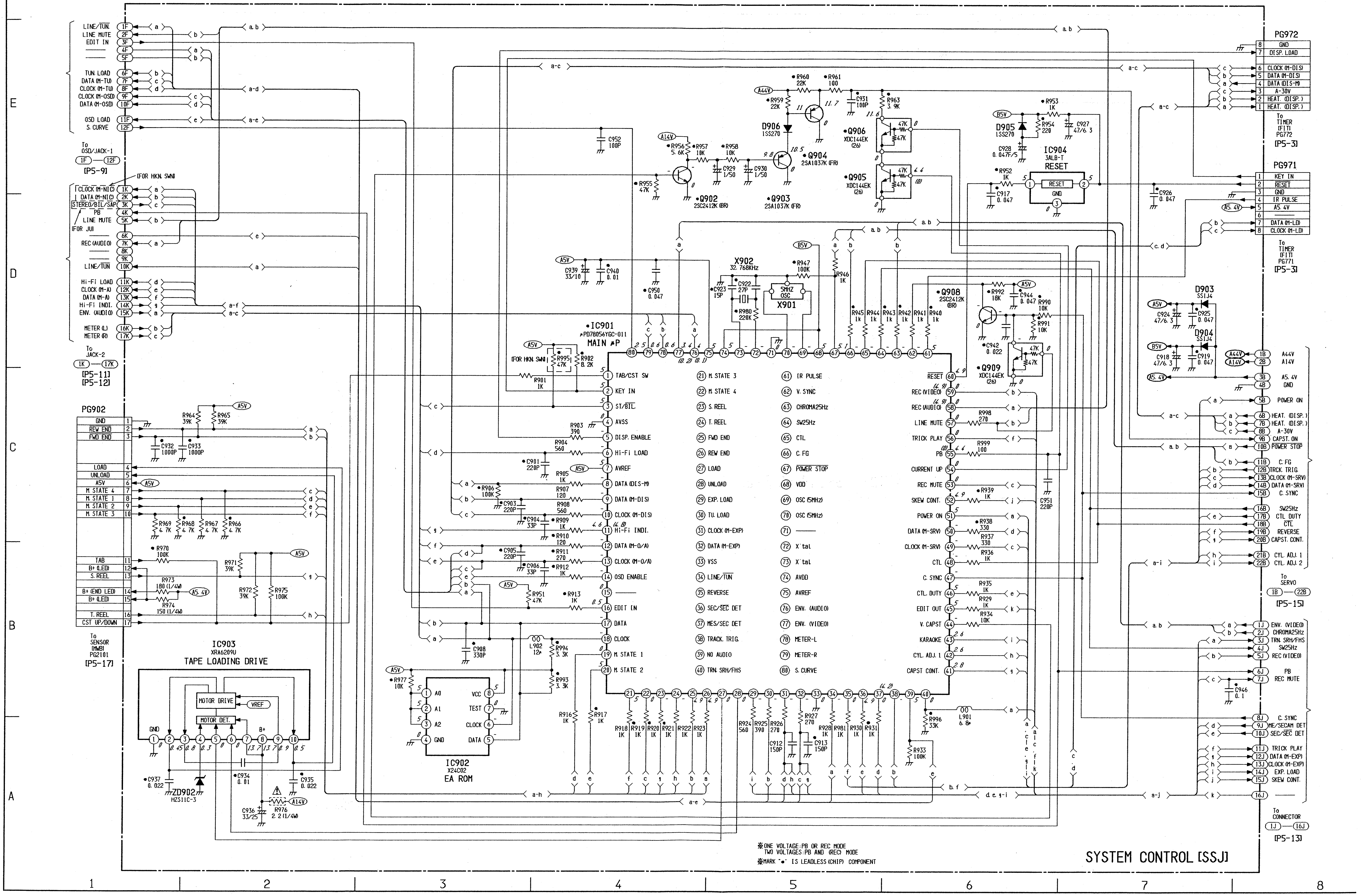
FRONT SWITCH [FSW2] SCHEMATIC DIAGRAM


PG1773
1 GND
2 GND
3 ———
4 DATA (M-LD)
5 CLOCK (M-LD)
6 A5. 4V
To TIMER [FIT] PG773
[P5-3]
C1701 0. 01
C1702 33/10
IC1701
HD49783
LED DRIVER
R1708 1K
R1707 1K
1 MRS 4.8
2 DATA (M-LD)
3 CLOCK (M-LD)
4 AD1
5 AD2
6 AD3
7 DA1
8 GND
16 Vcc 5.3
15 DA8
14 DA7
13 DA6
12 DA5
11 DA4
10 DA3 5.3
9 DA2
LD1706 SLR-34YC5 PAL60
LD1705 SLR-34YC5 4. 43NTSC
LD1704 SLR-34YC5 3. 58NTSC
R1706 270
R1705 270
R1704 270
3.8
47K
Q1706 XDC144ES
Q1705 XDC144ES
Q1704 XDC144ES
LD1703 SLR-URC5 SECAM
LD1702 SLR-URC5 MESECAM
LD1701 SLR-34MC5 PAL
R1703 560
R1702 560
R1701 220
0.1
3.9
3.8
5.3
Q1703 XDC144ES
Q1702 XDC144ES
Q1701 XDC144ES
※VOLTAGE:STOP MODE
FRONT SWITCH [FSW2]

REAR JACK [RJKM] SCHEMATIC DIAGRAM

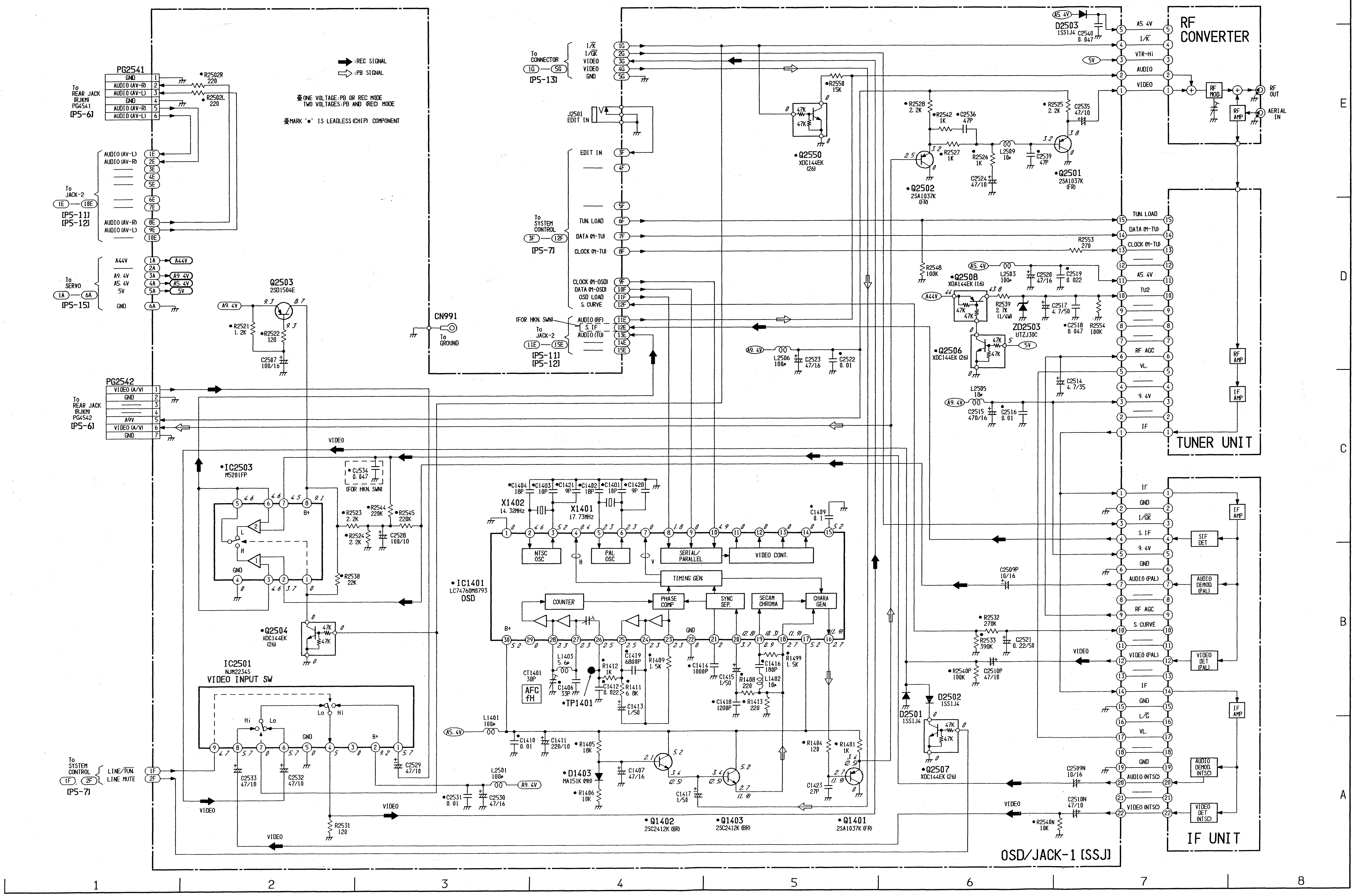

J4501
AUDIO OUT (AV-R)
AUDIO OUT (AV-L)
AUDIO IN (AV-R)
AUDIO-IN (AV-L)
VIDEO IN (A/V)
VIDEO OUT (A/V)
PG4541
1 GND
2 AUDIO (AV-R)
3 AUDIO (AV-L)
4 GND
5 AUDIO (AV-R)
6 AUDIO (AV-L)
To OSD/JACK-1 [SSJ] PG2541
[P5-9]
PG4542
1 VIDEO (A/V)
2 GND
3 ———
4 ———
5 A9V
6 VIDEO (A/V)
7 GND
To OSD/JACK-1 [SSJ] PG2542
[P5-9]
R4501 75
C4501 470/6. 3
R4502 75
R4503 270
Q4501 2SA1390C
※ONE VOLTAGE:PB OR REC MODE
REAR JACK [RJKM]

SYSTEM CONTROL [SSJ] SCHEMATIC DIAGRAM


IC901
μPD78054YGC-011
MAIN μP
1 TAB/CST SW
2 KEY IN
3 ST/BIL
4 AVSS
5 DISP. ENABLE
6 Hi-Fi LOAD
7 AVREF
8 DATA (DIS-M)
9 DATA (M-DIS)
10 CLOCK (M-DIS)
11 Hi-Fi INDI.
12 DATA (M-O/A)
13 CLOCK (M-O/A)
14 OSD ENABLE
15 —
16 EDIT IN
17 DATA
18 CLOCK
19 M. STATE 1
20 M. STATE 2
21 M. STATE 3
22 M. STATE 4
23 S. REEL
24 T. REEL
25 FWD END
26 REW END
27 LOAD
28 UNLOAD
29 EXP. LOAD
30 TU. LOAD
31 CLOCK (M-EXP)
32 DATA (M-EXP)
33 VSS
34 LINE/TUN
35 REVERSE
36 SEC/SEC DET
37 MES/SEC DET
38 TRACK. TRIG.
39 NO AUDIO
40 TRN. SRH/FHS
41 CAPST CONT.
42 CYL. ADJ. 1
43 KARAOKE
44 V. CAPST
45 EDIT OUT
46 CTL. DUTY
47 C. SYNC
48 CTL
49 CLOCK (M-SRV)
50 DATA (M-SRV)
51 POWER ON
52 SKEW CONT.
53 REC MUTE
54 CURRENT UP
55 PB
56 TRICK PLAY
57 LINE MUTE
58 REC (AUDIO)
59 REC (VIDEO)
60 RESET
61 IR PULSE
62 V. SYNC
63 CHROMA25Hz
64 SW25Hz
65 CTL
66 C. FG
67 POWER STOP
68 VDD
69 OSC (5MHz)
70 OSC (5MHz)
71 ———
72 X'tal
73 X'tal
74 AVDD
75 AVREF
76 ENV. (AUDIO)
77 ENV. (VIDEO)
78 METER-L
79 METER-R
80 S. CURVE
IC902
X24C02
EA ROM
A0 A1 A2 GND VCC TEST CLOCK DATA
IC903
XRA6209U
TAPE LOADING DRIVE
MOTOR DRIVE
MOTOR DET.
VREF
GND
B+
IC904
3ALB-T
RESET
GND
X901 5MHz OSC
X902 32.768kHz
Q902 2SC2412K (BR)
Q903 2SA1037K (FR)
Q904 2SA1037K (FR)
Q905 XDC144EK (26)
Q906 XDC144EK (26)
Q908 2SC2412K (BR)
Q909 XDC144EK (26)
D903 SS1J4
D904 SS1J4
D905 1SS270
D906 1SS270
ZD902 HZS11C-3
PG902
GND
REW END
FWD END
LOAD
UNLOAD
A5V
M. STATE 4
M. STATE 1
M. STATE 2
M. STATE 3
TAB
B+ (LED)
S. REEL
B+ (END LED)
B+ (LED)
T. REEL
CST UP/DOWN
To SENSOR (MWB) PG2101 [P5-17]
LINE/TUN
LINE MUTE
EDIT IN
TUN. LOAD
DATA (M-TU)
CLOCK (M-TU)
CLOCK (M-OSD)
DATA (M-OSD)
OSD LOAD
S. CURVE
To OSD/JACK-1 1F — 12F [P5-9]
(FOR HKN. SW)
CLOCK (M-NIC)
DATA (M-NIC)
STEREO/BIL/SAP
PB
LINE MUTE
(FOR JU)
REC (AUDIO)
LINE/TUN
Hi-Fi LOAD
CLOCK (M-A)
DATA (M-A)
Hi-Fi INDI.
ENV. (AUDIO)
METER (L)
METER (R)
To JACK-2 1K — 17K [P5-11] [P5-12]
PG972
GND
DISP. LOAD
CLOCK (M-DIS)
DATA (M-DIS)
DATA (DIS-M)
A-30V
HEAT. (DISP.)
HEAT. (DISP.)
To TIMER (FIT) PG772 [P5-3]
PG971
KEY IN
RESET
GND
IR PULSE
A5.4V
———
DATA (M-LD)
CLOCK (M-LD)
To TIMER (FIT) PG771 [P5-3]
A44V
A14V
A5.4V
GND
POWER ON
HEAT. (DISP.)
HEAT. (DISP.)
A-30V
CAPST. ON
POWER STOP
C. FG
TRCK. TRIG
CLOCK (M-SRV)
DATA (M-SRV)
C. SYNC
SW25Hz
CTL. DUTY
CTL
REVERSE
CAPST. CONT.
CYL. ADJ. 1
CYL. ADJ. 2
To SERVO 1B — 22B [P5-15]
ENV. (VIDEO)
CHROMA25Hz
TRN. SRH/FHS
SW25Hz
REC (VIDEO)
PB
REC MUTE
C. SYNC
ME/SECAM DET
SEC/SEC DET
TRICK PLAY
DATA (M-EXP)
CLOCK (M-EXP)
EXP. LOAD
SKEW CONT.
To CONNECTOR 1J — 16J [P5-13]
SYSTEM CONTROL [SSJ]

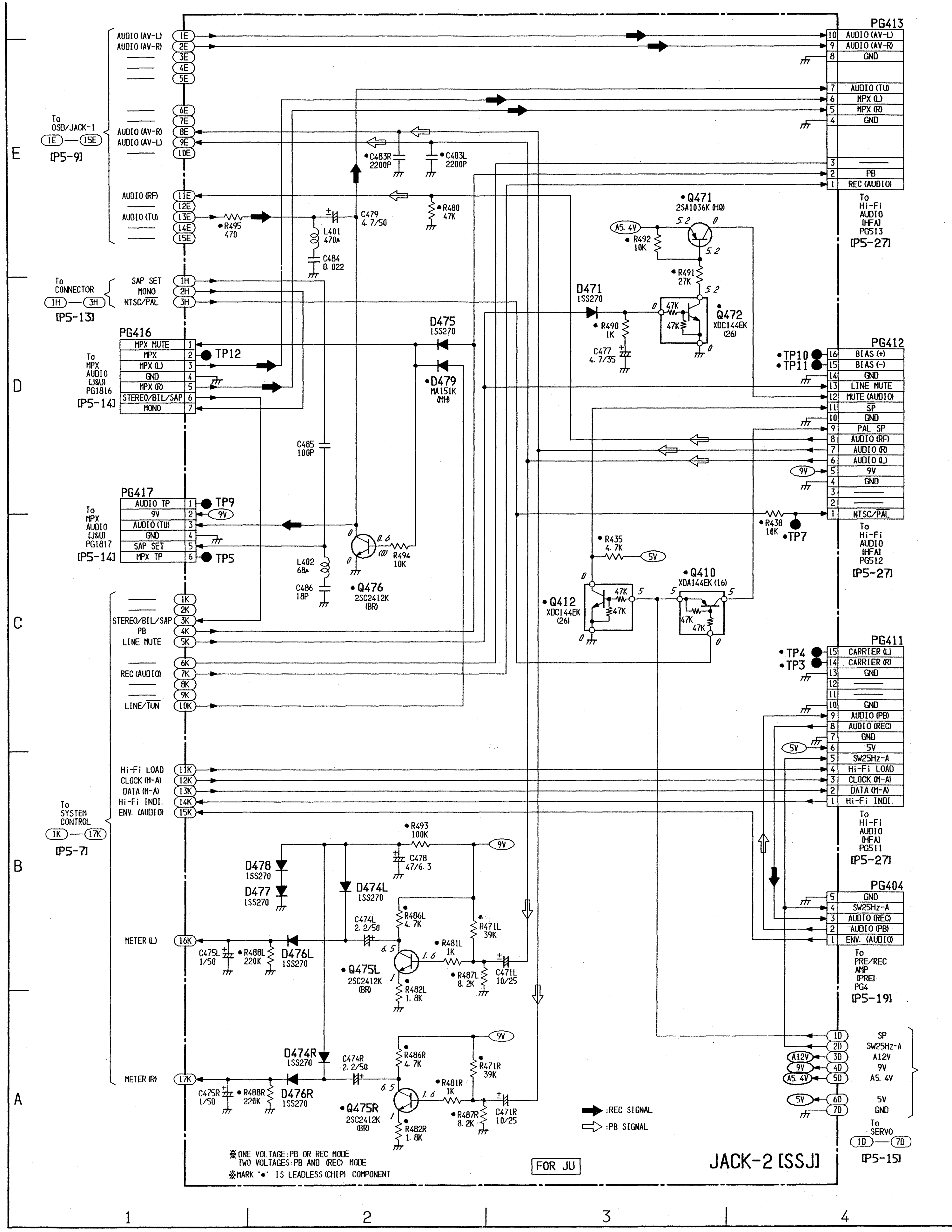
※ONE VOLTAGE:PB OR REC MODE
TWO VOLTAGES:PB AND (REC) MODE
※MARK "●" IS LEADLESS (CHIP) COMPONENT

OSD/JACK-1 [SSJ] SCHEMATIC DIAGRAM

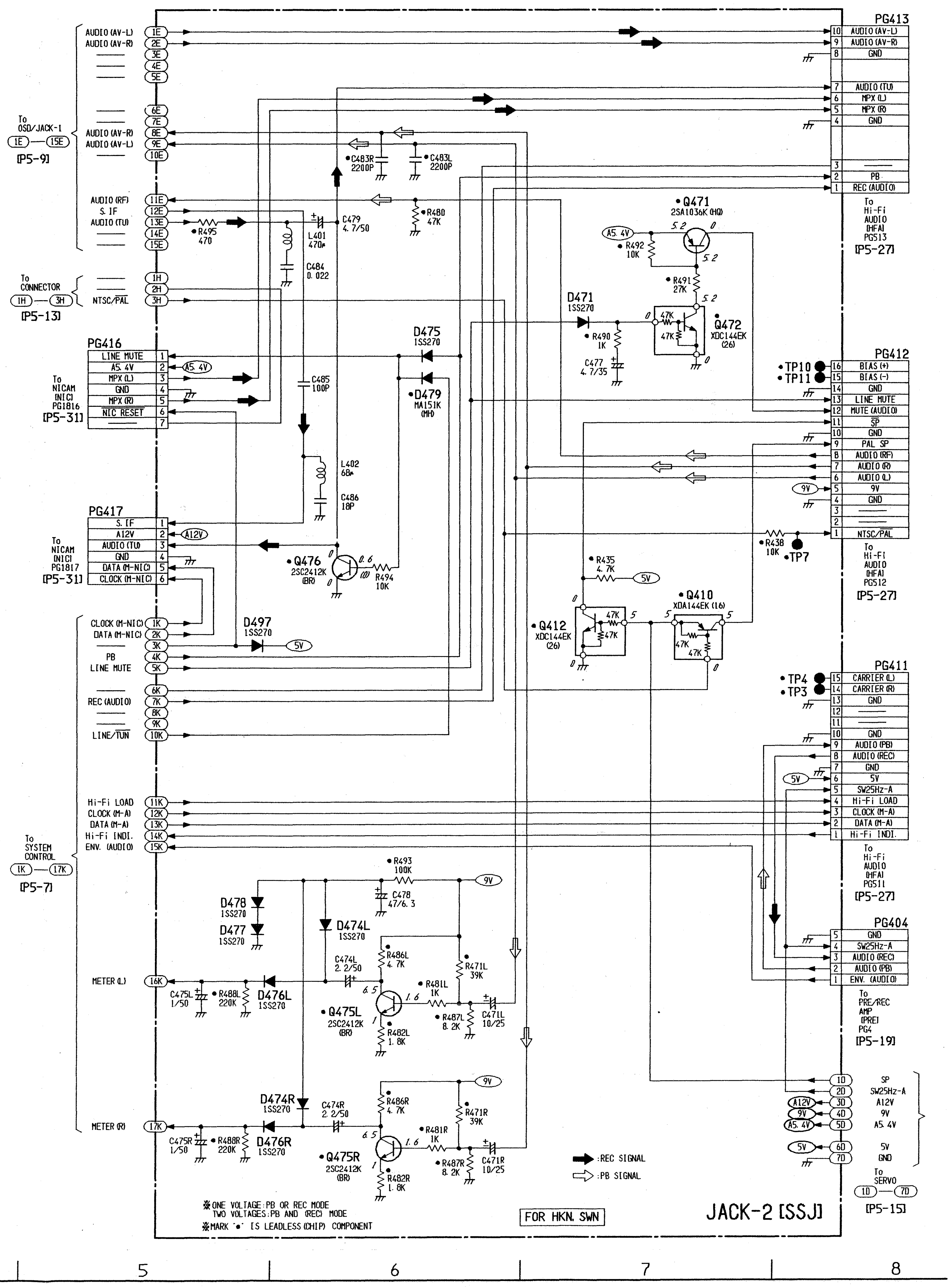


➡ :REC SIGNAL
⇨ :PB SIGNAL
※ONE VOLTAGE:PB OR REC MODE
TWO VOLTAGES:PB AND (REC) MODE
※MARK "●" IS LEADLESS(CHIP) COMPONENT
PG2541
To REAR JACK (RJKM) PG4541 [P5-6]
To JACK-2 (1E)—(10E) [P5-11] [P5-12]
To SERVO (1A)—(6A) [P5-15]
Q2503 2SD1504E
CN991
To GROUND
PG2542
To REAR JACK (RJKM) PG4542 [P5-6]
To CONNECTOR (1G)—(5G) [P5-13]
J2501 EDIT IN
To SYSTEM CONTROL (3F)—(12F) [P5-7]
(FOR HKN. SWN)
To JACK-2 (11E)—(15E) [P5-11] [P5-12]
Q2550 XDC144EK (26)
Q2502 2SA1037K (FR)
Q2501 2SA1037K (FR)
D2503 1SS1J4
RF CONVERTER
RF MOD.
RF AMP
RF OUT
AERIAL IN
TUNER UNIT
Q2508 XDA144EK (16)
Q2506 XDC144EK (26)
ZD2503 UTZJ30C
IC2503 M5201FP
IC1401 LC74760M8793 OSD
X1402 14.32MHz
X1401 17.73MHz
NTSC OSC
PAL OSC
SERIAL/PARALLEL
VIDEO CONT.
TIMING GEN.
COUNTER
PHASE COMP
SYNC SEP.
SECAM CHROMA
CHARA GEN.
AFC fH
TP1401
Q2504 XDC144EK (26)
IC2501 NJM2234S VIDEO INPUT SW
To SYSTEM CONTROL (1F) (2F) [P5-7]
LINE/TUN. LINE MUTE
D1403 MA151K (HH)
Q1402 2SC2412K (BR)
Q1403 2SC2412K (BR)
Q1401 2SA1037K (FR)
D2501 1SS1J4
D2502 1SS1J4
Q2507 XDC144EK (26)
SIF DET
AUDIO DEMOD. (PAL)
VIDEO DET (PAL)
AUDIO DEMOD. (NTSC)
VIDEO DET (NTSC)
IF AMP
IF UNIT
OSD/JACK-1 [SSJ]
VIDEO
A5.4V
A9.4V
A44V
5V
1
2
3
4
5
6
7
8
A
B
C
D
E

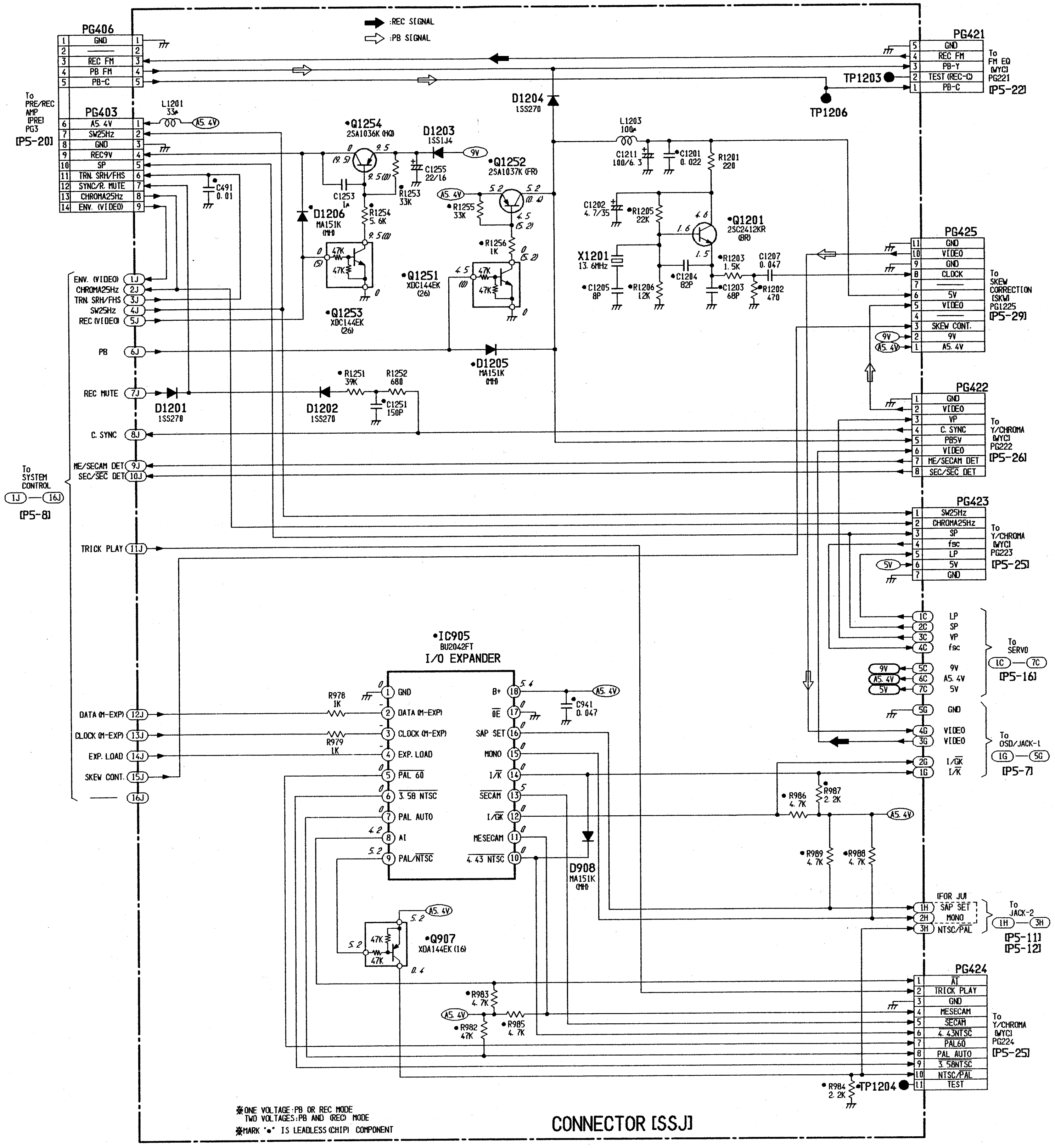
JACK-2 [SSJ] SCHEMATIC DIAGRAM (For JU)


PG413
AUDIO (AV-L)
AUDIO (AV-R)
GND
AUDIO (TU)
MPX (L)
MPX (R)
PB
REC (AUDIO)
To OSD/JACK-1
1E — 15E
[P5-9]
AUDIO (RF)
AUDIO (TU)
R495 470
C479 4.7/50
L401 470μ
C484 0.022
C483R 2200P
C483L 2200P
R480 47K
To Hi-Fi AUDIO (HFA) PG513
[P5-27]
Q471 2SA1036K (HQ)
A5.4V
R492 10K
R491 27K
Q472 XDC144EK (26)
D471 1SS270
R490 1K
C477 4.7/35
D475 1SS270
D479 MA151K (MH)
To CONNECTOR
SAP SET
MONO
NTSC/PAL
1H — 3H
[P5-13]
PG416
MPX MUTE
MPX
MPX (L)
GND
MPX (R)
STEREO/BIL/SAP
MONO
To MPX AUDIO (J&U) PG1816
[P5-14]
TP12
TP10
TP11
PG412
BIAS (+)
BIAS (-)
LINE MUTE
MUTE (AUDIO)
SP
PAL SP
AUDIO (RF)
AUDIO (R)
AUDIO (L)
9V
NTSC/PAL
C485 100P
PG417
AUDIO TP
9V
AUDIO (TU)
SAP SET
MPX TP
To MPX AUDIO (J&U) PG1817
[P5-14]
TP9
TP5
L402 68μ
C486 18P
Q476 2SC2412K (BR)
R494 10K
R438 10K
TP7
To Hi-Fi AUDIO (HFA) PG512
[P5-27]
R435 4.7K
5V
Q410 XDA144EK (16)
Q412 XDC144EK (26)
STEREO/BIL/SAP
PB
LINE MUTE
REC (AUDIO)
LINE/TUN
PG411
TP4
TP3
CARRIER (L)
CARRIER (R)
AUDIO (PB)
AUDIO (REC)
5V
SW25Hz-A
Hi-Fi LOAD
CLOCK (M-A)
DATA (M-A)
Hi-Fi INDI.
ENV. (AUDIO)
To SYSTEM CONTROL
1K — 17K
[P5-7]
To Hi-Fi AUDIO (HFA) PG511
[P5-27]
R493 100K
C478 47/6.3
D478 1SS270
D477 1SS270
D474L 1SS270
C474L 2.2/50
R486L 4.7K
R471L 39K
R481L 1K
C471L 10/25
METER (L)
C475L 1/50
R488L 220K
D476L 1SS270
Q475L 2SC2412K (BR)
R482L 1.8K
R487L 8.2K
PG404
SW25Hz-A
AUDIO (REC)
AUDIO (PB)
ENV. (AUDIO)
To PRE/REC AMP (PRE) PG4
[P5-19]
D474R 1SS270
C474R 2.2/50
R486R 4.7K
R471R 39K
R481R 1K
METER (R)
C475R 1/50
R488R 220K
D476R 1SS270
Q475R 2SC2412K (BR)
R487R 8.2K
C471R 10/25
R482R 1.8K
SP
SW25Hz-A
A12V
9V
A5.4V
5V
GND
To SERVO
1D — 7D
[P5-15]
:REC SIGNAL
:PB SIGNAL
※ONE VOLTAGE:PB OR REC MODE
TWO VOLTAGES:PB AND (REC) MODE
※MARK '•' IS LEADLESS (CHIP) COMPONENT
FOR JU
JACK-2 [SSJ]
E
D
C
B
A
1
2
3
4

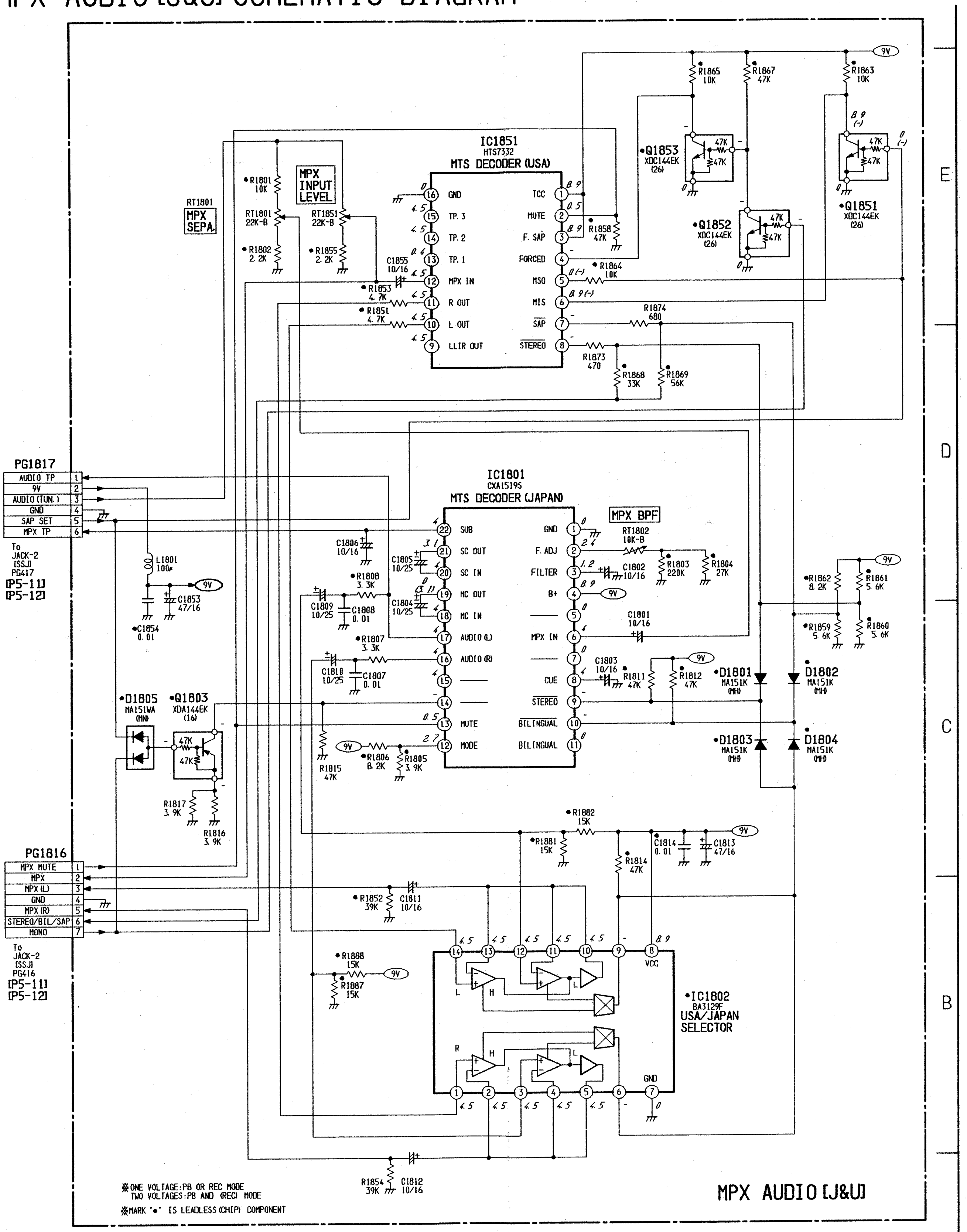
JACK-2 [SSJ] SCHEMATIC DIAGRAM (For HKN, SWN)


PG413
AUDIO (AV-L)
AUDIO (AV-R)
GND
AUDIO (TU)
MPX (L)
MPX (R)
PB
REC (AUDIO)
To OSD/JACK-1
1E — 15E
[P5-9]
AUDIO (RF)
S.IF
AUDIO (TU)
R495 470
C479 4.7/50
L401 470μ
C484 0.022
C483R 2200P
C483L 2200P
R480 47K
To Hi-Fi AUDIO (HFA) PG513
[P5-27]
Q471 2SA1036K (HQ)
A5.4V
R492 10K
R491 27K
Q472 XDC144EK (26)
D471 1SS270
R490 1K
C477 4.7/35
D475 1SS270
D479 MA151K (MH)
To CONNECTOR
NTSC/PAL
1H — 3H
[P5-13]
PG416
LINE MUTE
A5.4V
MPX (L)
GND
MPX (R)
NIC RESET
To NICAM (NIC) PG1816
[P5-31]
C485 100P
L402 68μ
C486 18P
TP10
TP11
PG412
BIAS (+)
BIAS (-)
LINE MUTE
MUTE (AUDIO)
SP
PAL SP
AUDIO (RF)
AUDIO (R)
AUDIO (L)
9V
NTSC/PAL
PG417
S.IF
A12V
AUDIO (TU)
DATA (M-NIC)
CLOCK (M-NIC)
To NICAM (NIC) PG1817
[P5-31]
Q476 2SC2412K (BR)
R494 10K
R438 10K
TP7
To Hi-Fi AUDIO (HFA) PG512
[P5-27]
R435 4.7K
5V
Q410 XDA144EK (16)
Q412 XDC144EK (26)
D497 1SS270
CLOCK (M-NIC)
DATA (M-NIC)
PB
LINE MUTE
REC (AUDIO)
LINE/TUN
PG411
TP4
TP3
CARRIER (L)
CARRIER (R)
AUDIO (PB)
AUDIO (REC)
5V
SW25Hz-A
Hi-Fi LOAD
CLOCK (M-A)
DATA (M-A)
Hi-Fi INDI.
ENV. (AUDIO)
To SYSTEM CONTROL
1K — 17K
[P5-7]
To Hi-Fi AUDIO (HFA) PG511
[P5-27]
R493 100K
C478 47/6.3
D478 1SS270
D477 1SS270
D474L 1SS270
C474L 2.2/50
R486L 4.7K
R471L 39K
R481L 1K
C471L 10/25
METER (L)
C475L 1/50
R488L 220K
D476L 1SS270
Q475L 2SC2412K (BR)
R482L 1.8K
R487L 8.2K
PG404
SW25Hz-A
AUDIO (REC)
AUDIO (PB)
ENV. (AUDIO)
To PRE/REC AMP (PRE) PG4
[P5-19]
D474R 1SS270
C474R 2.2/50
R486R 4.7K
R471R 39K
R481R 1K
METER (R)
C475R 1/50
R488R 220K
D476R 1SS270
Q475R 2SC2412K (BR)
R487R 8.2K
C471R 10/25
R482R 1.8K
SP
SW25Hz-A
A12V
9V
A5.4V
5V
GND
To SERVO
1D — 7D
[P5-15]
:REC SIGNAL
:PB SIGNAL
※ONE VOLTAGE:PB OR REC MODE
TWO VOLTAGES:PB AND (REC) MODE
※MARK '•' IS LEADLESS (CHIP) COMPONENT
FOR HKN, SWN
JACK-2 [SSJ]
5
6
7
8

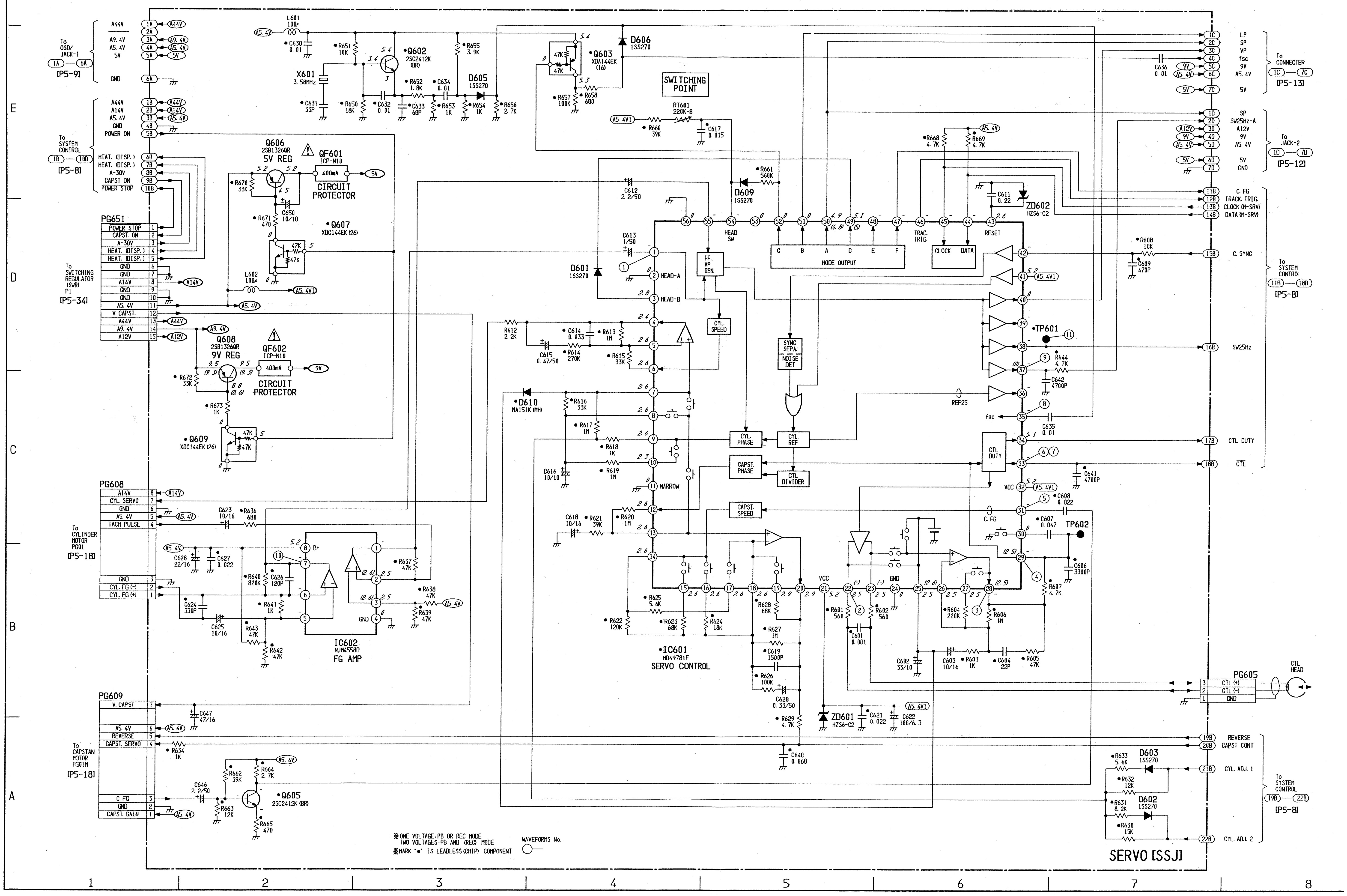
CONNECTOR [SSJ] SCHEMATIC DIAGRAM


:REC SIGNAL
:PB SIGNAL
PG406
GND
REC FM
PB FM
PB-C
PG403
A5.4V
SW25Hz
GND
REC9V
SP
TRN. SRH/FHS
SYNC/R. MUTE
CHROMA25Hz
ENV. (VIDEO)
To PRE/REC AMP (PRE) PG3
[P5-20]
PG421
GND
REC FM
PB-Y
TEST (REC-C)
PB-C
To FM EQ (Y/C) PG221
[P5-22]
TP1203
TP1206
D1204 1SS270
L1201 33μ
Q1254 2SA1036K (KQ)
D1203 1SS134
Q1252 2SA1037K (FR)
C1255 22/16
R1253 33K
R1255 33K
R1256 1K
C1253 1μ
D1206 MA151K
R1254 5.6K
C491 0.01
Q1253 XDC144EK (26)
Q1251 XDC144EK (26)
L1203 100μ
C1211 100/6.3
C1201 0.022
R1201 220
C1202 4.7/35
R1205 22K
Q1201 2SC2412KR (BR)
X1201 13.6MHz
C1205 8P
R1206 12K
C1204 82P
R1203 1.5K
C1207 0.047
C1203 68P
R1202 470
PG425
GND
VIDEO
GND
CLOCK
5V
VIDEO
SKEW CONT.
9V
A5.4V
To SKEW CORRECTION (SKW) PG1225
[P5-29]
ENV. (VIDEO)
CHROMA25Hz
TRN. SRH/FHS
SW25Hz
REC (VIDEO)
PB
REC MUTE
D1201 1SS270
R1251 39K
R1252 680
D1202 1SS270
C1251 150P
D1205 MA151K
C. SYNC
ME/SECAM DET
SEC/SEC DET
To SYSTEM CONTROL
[P5-8]
TRICK PLAY
PG422
GND
VIDEO
VP
C. SYNC
PB5V
VIDEO
ME/SECAM DET
SEC/SEC DET
To Y/CHROMA (Y/C) PG222
[P5-26]
PG423
SW25Hz
CHROMA25Hz
SP
fsc
LP
5V
GND
To Y/CHROMA (Y/C) PG223
[P5-25]
LP
SP
VP
fsc
9V
A5.4V
5V
To SERVO
[P5-16]
GND
VIDEO
VIDEO
I/ĪK
I/K
To OSD/JACK-1
[P5-7]
IC905 BU2042FT I/O EXPANDER
GND
DATA (M-EXP)
CLOCK (M-EXP)
EXP. LOAD
PAL 60
3.58 NTSC
PAL AUTO
AI
PAL/NTSC
B+
ŌE
SAP SET
MONO
I/K
SECAM
I/K
MESECAM
4.43 NTSC
R978 1K
R979 1K
C941 0.047
DATA (M-EXP)
CLOCK (M-EXP)
EXP. LOAD
SKEW CONT.
R986 4.7K
R987 2.2K
R989 4.7K
R988 4.7K
D908 MA151K
Q907 XDA144EK (16)
(FOR JU)
SAP SET
MONO
NTSC/PAL
To JACK-2
[P5-11]
[P5-12]
PG424
AI
TRICK PLAY
GND
MESECAM
SECAM
4.43NTSC
PAL60
PAL AUTO
3.58NTSC
NTSC/PAL
TEST
To Y/CHROMA (Y/C) PG224
[P5-25]
R983 4.7K
R985 4.7K
R982 47K
R984 2.2K
TP1204
※ONE VOLTAGE:PB OR REC MODE
TWO VOLTAGES:PB AND (REC) MODE
※MARK '•' IS LEADLESS (CHIP) COMPONENT
CONNECTOR [SSJ]

MPX AUDIO [J&U] SCHEMATIC DIAGRAM


IC1851 HT57332 MTS DECODER (USA)
GND
TP.3
TP.2
TP.1
MPX IN
R OUT
L OUT
LLIR OUT
TCC
MUTE
F. SAP
FORCED
NSO
MIS
SAP
STEREO
RT1801 MPX SEPA.
MPX INPUT LEVEL
R1801 10K
RT1801 22K-B
RT1851 22K-B
R1802 2.2K
R1855 2.2K
C1855 10/16
R1853 4.7K
R1851 4.7K
R1858 47K
R1864 10K
R1874 680
R1873 470
R1868 33K
R1869 56K
R1865 10K
R1867 47K
R1863 10K
Q1853 XDC144EK (26)
Q1852 XDC144EK (26)
Q1851 XDC144EK (26)
IC1801 CXA1519S MTS DECODER (JAPAN)
SUB
SC OUT
SC IN
MC OUT
MC IN
AUDIO (L)
AUDIO (R)
MUTE
MODE
GND
F. ADJ
FILTER
B+
MPX IN
CUE
STEREO
BILINGUAL
BILINGUAL
MPX BPF
RT1802 10K-B
R1803 220K
R1804 27K
C1802 10/16
C1801 10/16
C1806 10/16
C1805 10/25
C1804 10/25
R1808 3.3K
C1809 10/25
C1808 0.01
R1807 3.3K
C1810 10/25
C1807 0.01
R1806 8.2K
R1805 3.9K
R1815 47K
C1803 10/16
R1811 47K
R1812 47K
D1801 MA151K
D1802 MA151K
D1803 MA151K
D1804 MA151K
R1862 8.2K
R1861 5.6K
R1859 5.6K
R1860 5.6K
PG1817
AUDIO TP
9V
AUDIO (TUN.)
GND
SAP SET
MPX TP
To JACK-2 (SSJ) PG417
[P5-11]
[P5-12]
L1801 100μ
C1853 47/16
C1854 0.01
D1805 MA151WA
Q1803 XDA144EK (16)
R1817 3.9K
R1816 3.9K
R1882 15K
R1881 15K
R1814 47K
C1814 0.01
C1813 47/16
PG1816
MPX MUTE
MPX
MPX (L)
GND
MPX (R)
STEREO/BIL/SAP
MONO
To JACK-2 (SSJ) PG416
[P5-11]
[P5-12]
R1852 39K
C1811 10/16
R1888 15K
R1887 15K
IC1802 BA3129F USA/JAPAN SELECTOR
VCC
GND
R1854 39K
C1812 10/16
※ONE VOLTAGE:PB OR REC MODE
TWO VOLTAGES:PB AND (REC) MODE
※MARK '•' IS LEADLESS (CHIP) COMPONENT
MPX AUDIO [J&U]
E
D
C
B
A
1
2
3
4
5
6
7
8

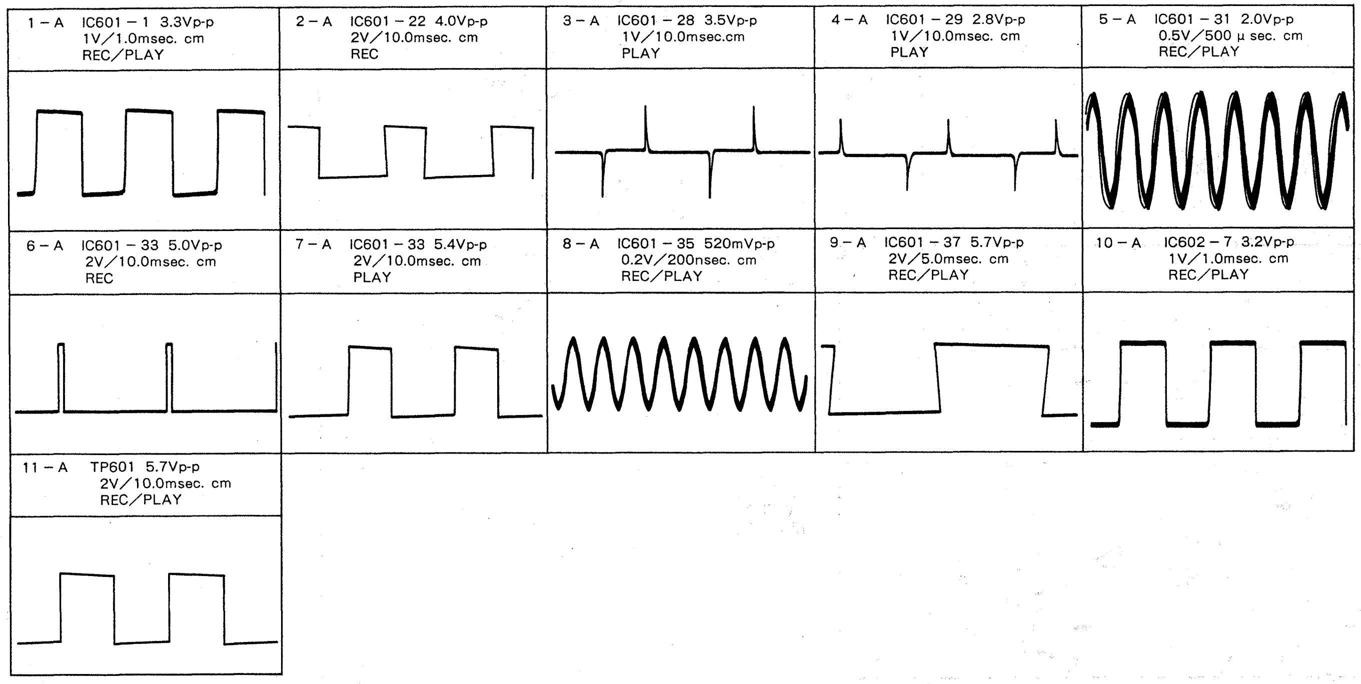
SERVO [SSJ] SCHEMATIC DIAGRAM



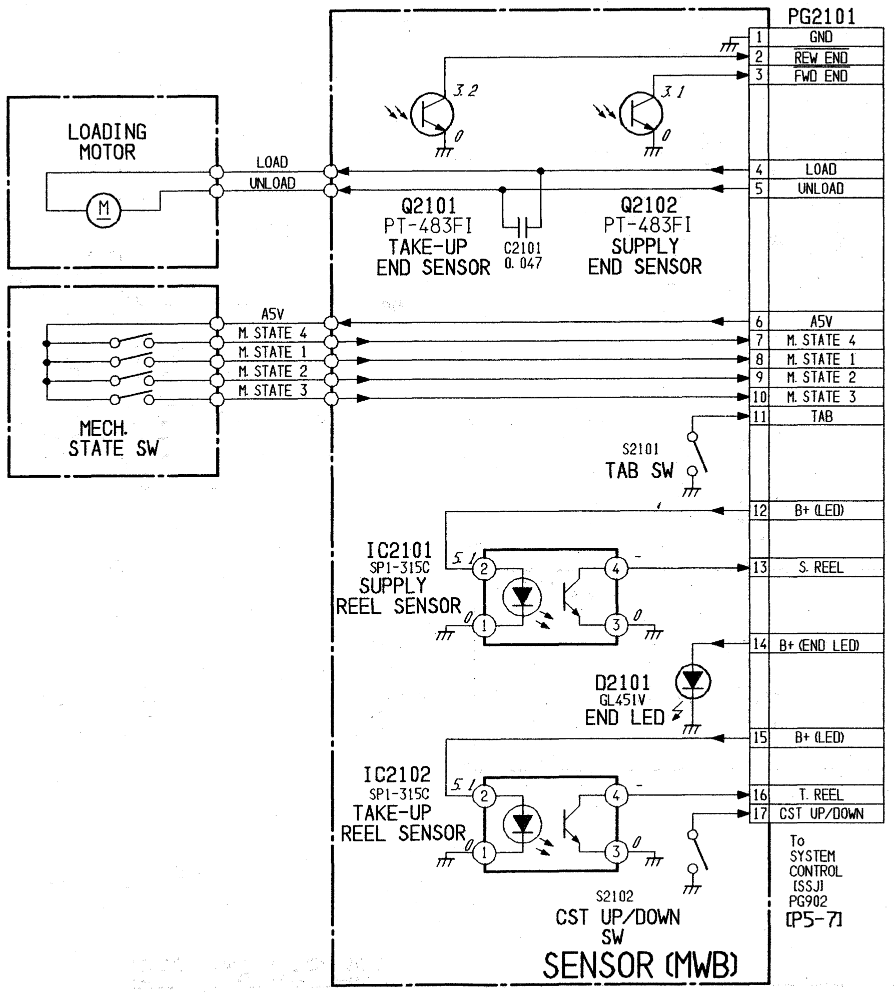
To OSD/ JACK-1
1A — 6A
[P5-9]
A44V
A9.4V
A5.4V
5V
GND
To SYSTEM CONTROL
1B — 10B
[P5-8]
A44V
A14V
A5.4V
GND
POWER ON
HEAT. (DISP.)
HEAT. (DISP.)
A-30V
CAPST. ON
POWER STOP
PG651
To SWITCHING REGULATOR [SWR] P1
[P5-34]
POWER STOP
CAPST. ON
A-30V
HEAT. (DISP.)
HEAT. (DISP.)
GND
GND
A14V
GND
GND
A5.4V
V. CAPST.
A44V
A9.4V
A12V
Q606 2SB1326QR 5V REG
QF601 ICP-N10 400mA
CIRCUIT PROTECTOR
R670 33K
R671 470
C650 10/10
Q607 XDC144EK (26)
L602 100μ
Q608 2SB1326QR 9V REG
QF602 ICP-N10 400mA
CIRCUIT PROTECTOR
R672 33K
R673 1K
Q609 XDC144EK (26)
L601 100μ
C630 0.01
X601 3.58MHz
C631 33P
R651 10K
R650 18K
C632 0.01
Q602 2SC2412K (BR)
R652 1.8K
C633 68P
C634 0.01
R653 1K
R655 3.9K
D605 1SS270
R654 1K
R656 2.7K
Q603 XDA144EK (16)
D606 1SS270
R657 100K
R658 680
SWITCHING POINT
RT601 220K-B
R660 39K
C617 0.015
R661 560K
D609 1SS270
C612 2.2/50
C613 1/50
D601 1SS270
R668 4.7K
R669 4.7K
C611 0.22
ZD602 HZS6-C2
HEAD SW
MODE OUTPUT
C B A D E F
TRAC. TRIG.
CLOCK DATA
RESET
FF VP GEN.
CYL. SPEED
SYNC SEPA.
NOISE DET
HEAD-A
HEAD-B
NARROW
R612 2.2K
C614 0.033
R613 1M
C615 0.47/50
R614 270K
R615 33K
D610 MA151K (MH)
R616 33K
R617 1M
R618 1K
R619 1M
C616 10/10
C618 10/16
R621 39K
R620 1M
CYL. PHASE
CYL. REF
CAPST. PHASE
CTL DIVIDER
CAPST. SPEED
CTL DUTY
TP601
TP602
R644 4.7K
C642 4700P
REF25
fsc
C635 0.01
C641 4700P
VCC
C608 0.022
C. FG
C607 0.047
C606 3300P
R607 4.7K
R606 1M
R608 10K
C609 470P
R625 5.6K
R622 120K
R623 68K
R624 18K
R628 68K
R627 1M
C619 1500P
R626 100K
C620 0.33/50
R629 4.7K
C640 0.068
R601 560
R602 560
C601 0.001
ZD601 HZS6-C2
C621 0.022
C622 100/6.3
R604 220K
C602 33/10
C603 10/16
R603 1K
C604 22P
R605 47K
IC601 HD49781F SERVO CONTROL
VCC
GND
PG608
To CYLINDER MOTOR PG01
[P5-18]
A14V
CYL. SERVO
GND
A5.4V
TACH PULSE
GND
CYL. FG (-)
CYL. FG (+)
C623 10/16
R636 680
C628 22/16
C627 0.022
R640 820K
C626 120P
C624 330P
C625 10/16
R641 1K
R643 47K
R642 47K
R637 47K
R638 47K
R639 47K
B+
GND
IC602 NJM4558D FG AMP
PG609
To CAPSTAN MOTOR PG01M
[P5-18]
V. CAPST
A5.4V
REVERSE
CAPST. SERVO
C. FG
GND
CAPST. GAIN
C647 47/16
R634 1K
C646 2.2/50
R662 39K
R664 2.7K
R663 12K
Q605 2SC2412K (BR)
R665 470
To CONNECTER
1C — 7C
[P5-13]
LP
SP
VP
fsc
9V
A5.4V
5V
C636 0.01
To JACK-2
1D — 7D
[P5-12]
SP
SW25Hz-A
A12V
9V
A5.4V
5V
GND
To SYSTEM CONTROL
11B — 18B
[P5-8]
C. FG
TRACK. TRIG
CLOCK (M-SRV)
DATA (M-SRV)
C. SYNC
SW25Hz
CTL DUTY
CTL
PG605
CTL HEAD
CTL (+)
CTL (-)
GND
REVERSE
CAPST. CONT.
CYL. ADJ. 1
CYL. ADJ. 2
R633 5.6K
D603 1SS270
R632 12K
R631 8.2K
D602 1SS270
R630 15K
To SYSTEM CONTROL
19B — 22B
[P5-8]
WAVEFORMS No.
SERVO [SSJ]
1 2 3 4 5 6 7 8
A B C D E

※ONE VOLTAGE:PB OR REC MODE
TWO VOLTAGES:PB AND (REC) MODE
※MARK '•' IS LEADLESS(CHIP) COMPONENT

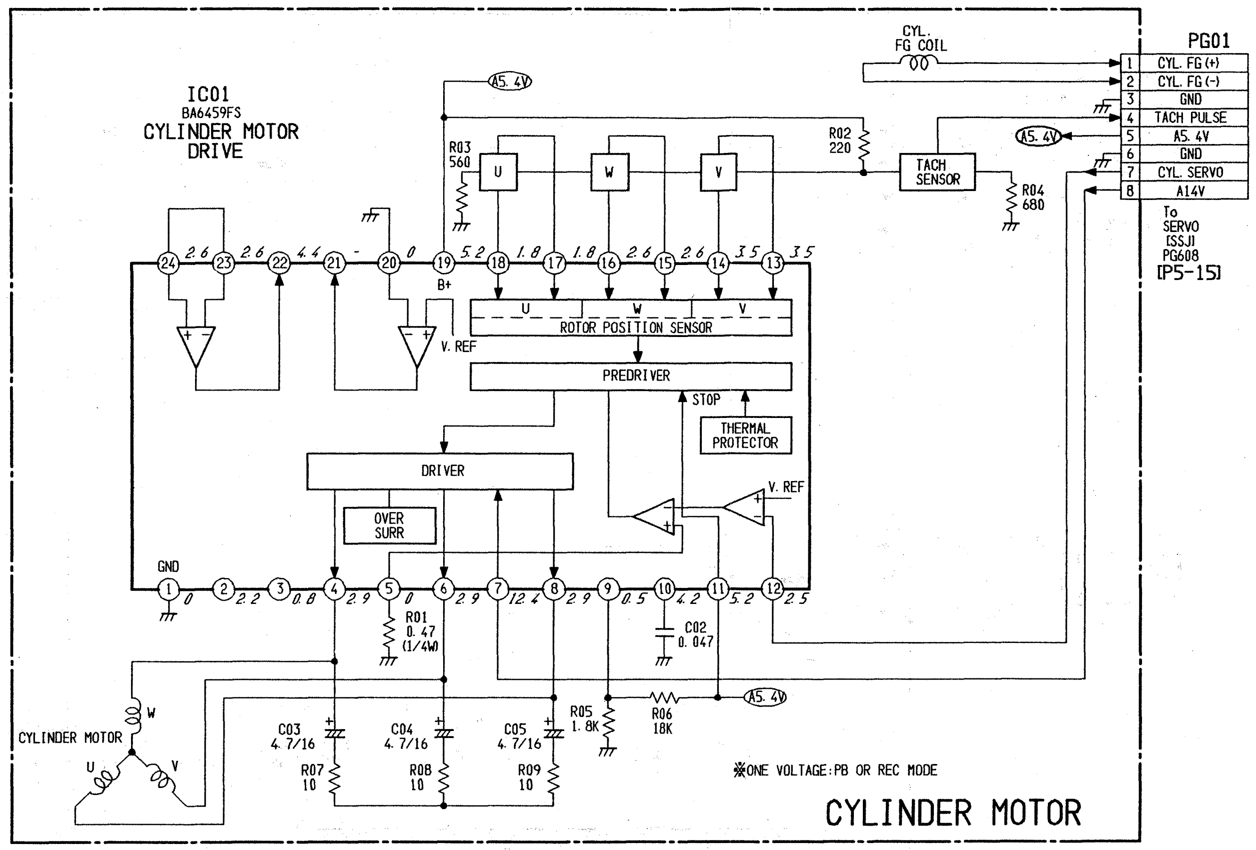
SERVO WAVEFORMS



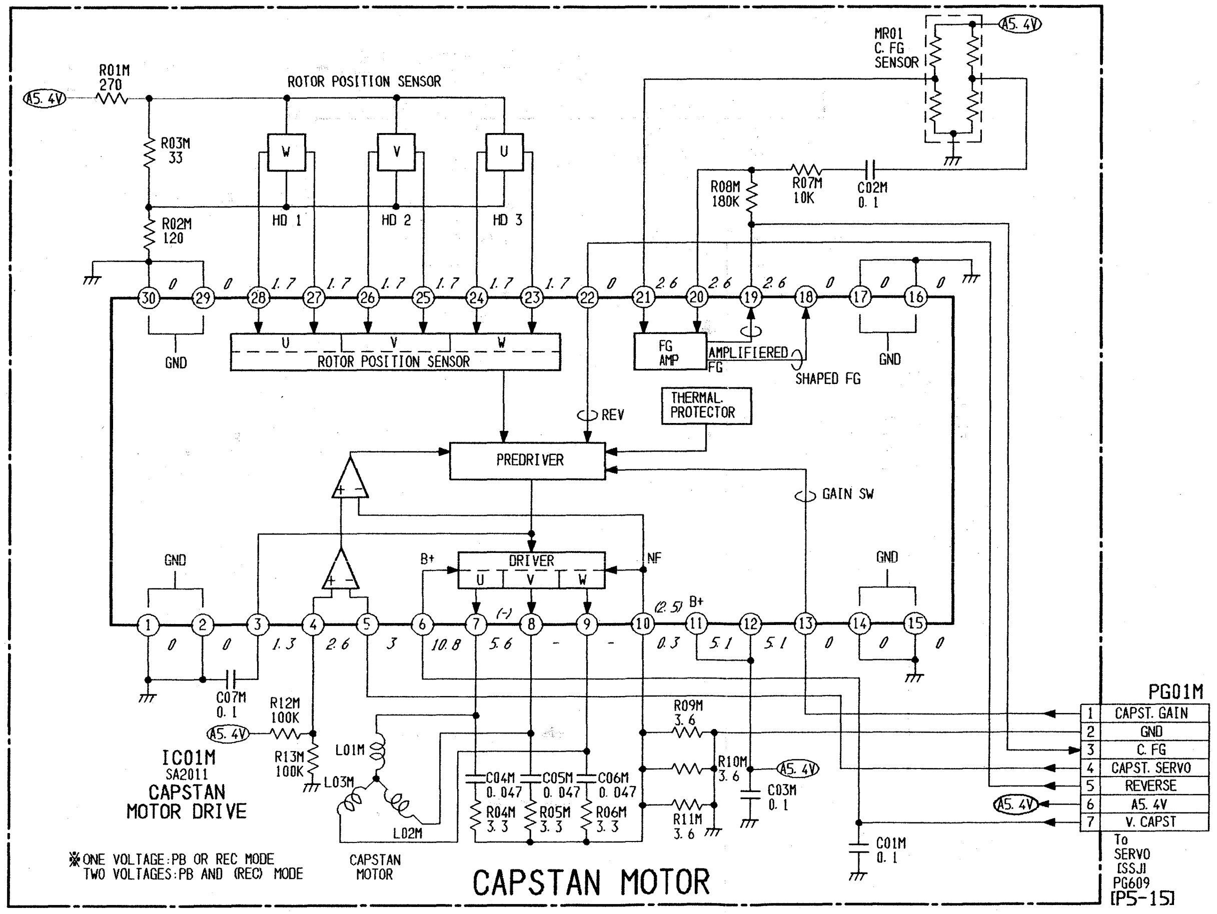
SENSOR [MWB] SCHEMATIC DIAGRAM


PG2101
1 GND
2 REW END
3 FWD END
4 LOAD
5 UNLOAD
6 A5V
7 M. STATE 4
8 M. STATE 1
9 M. STATE 2
10 M. STATE 3
11 TAB
12 B+ (LED)
13 S. REEL
14 B+ (END LED)
15 B+ (LED)
16 T. REEL
17 CST UP/DOWN
To SYSTEM CONTROL [SSJ] PG902 [P5-7]
LOADING MOTOR
M
LOAD
UNLOAD
MECH. STATE SW
A5V
M. STATE 4
M. STATE 1
M. STATE 2
M. STATE 3
Q2101 PT-483FI TAKE-UP END SENSOR
Q2102 PT-483FI SUPPLY END SENSOR
C2101 0.047
S2101 TAB SW
IC2101 SPI-315C SUPPLY REEL SENSOR
D2101 GL451V END LED
IC2102 SPI-315C TAKE-UP REEL SENSOR
S2102 CST UP/DOWN SW
SENSOR (MWB)

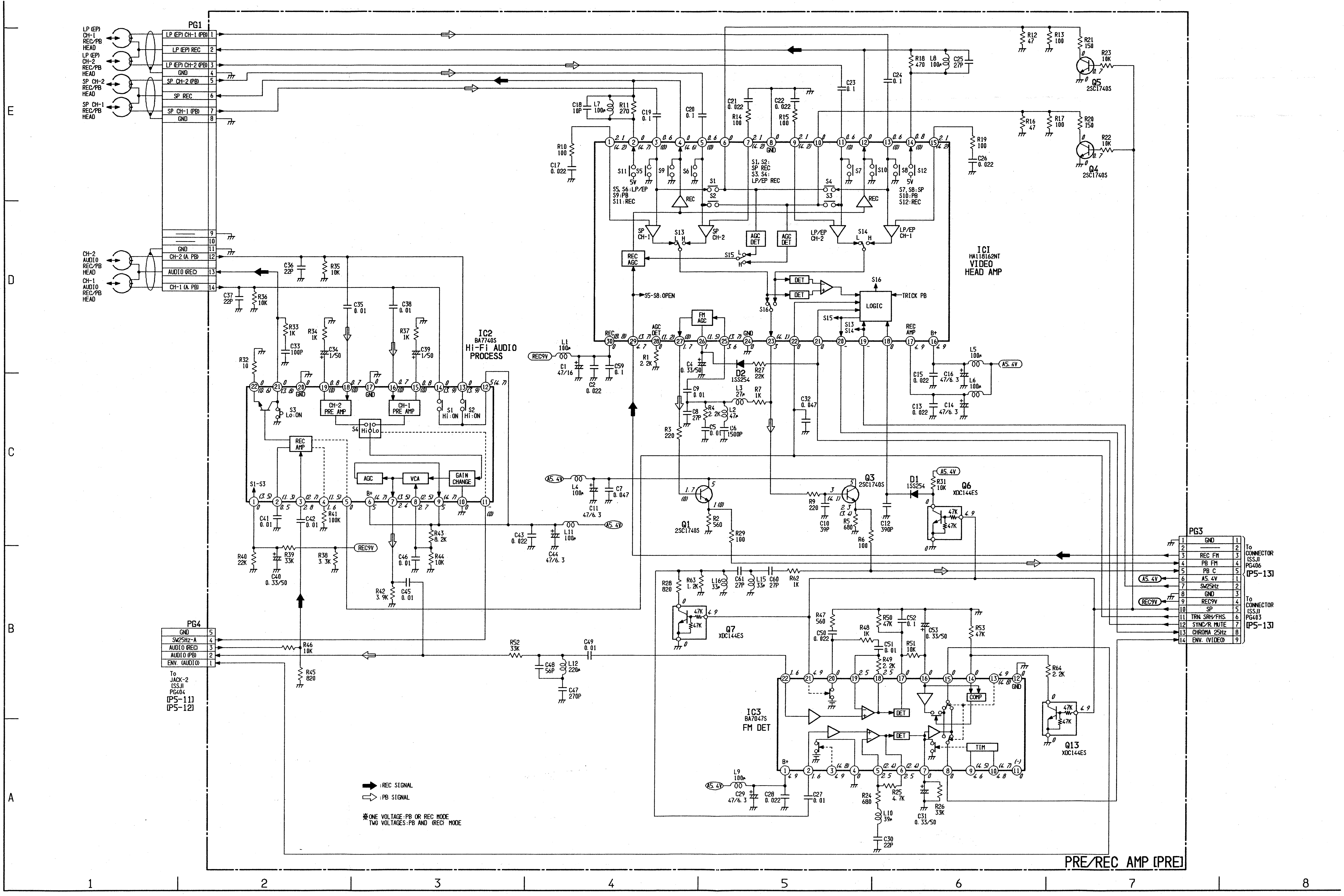
CYLINDER MOTOR SCHEMATIC DIAGRAM


IC01 BA6459FS CYLINDER MOTOR DRIVE
CYL. FG COIL
A5.4V
R02 220
R03 560
R04 680
TACH SENSOR
ROTOR POSITION SENSOR
U
V
W
V. REF
B+
PREDRIVER
STOP
THERMAL PROTECTOR
DRIVER
OVER SURR
GND
R01 0.47 (1/4W)
C02 0.047
R05 1.8K
R06 18K
C03 4.7/16
C04 4.7/16
C05 4.7/16
R07 10
R08 10
R09 10
CYLINDER MOTOR
※ONE VOLTAGE:PB OR REC MODE
CYLINDER MOTOR
PG01
1 CYL. FG (+)
2 CYL. FG (-)
3 GND
4 TACH PULSE
5 A5.4V
6 GND
7 CYL. SERVO
8 A14V
To SERVO [SSJ] PG608 [P5-15]

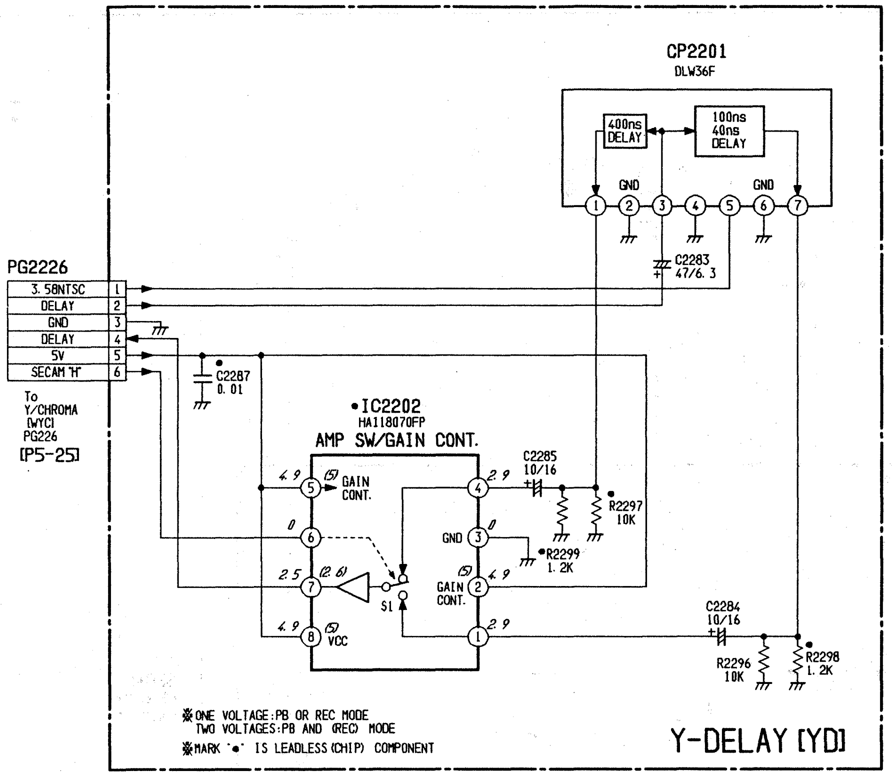
CAPSTAN MOTOR SCHEMATIC DIAGRAM


MR01 C. FG SENSOR
A5.4V
R01M 270
R03M 33
R02M 120
ROTOR POSITION SENSOR
HD 1
HD 2
HD 3
U
V
W
R08M 180K
R07M 10K
C02M 0.1
GND
FG AMP
AMPLIFIERED FG
SHAPED FG
THERMAL PROTECTOR
REV
PREDRIVER
GAIN SW
DRIVER
B+
NF
C07M 0.1
R12M 100K
R13M 100K
L01M
L02M
L03M
IC01M SA2011 CAPSTAN MOTOR DRIVE
C04M 0.047
C05M 0.047
C06M 0.047
R04M 3.3
R05M 3.3
R06M 3.3
R09M 3.6
R10M 3.6
R11M 3.6
C03M 0.1
C01M 0.1
※ONE VOLTAGE:PB OR REC MODE
TWO VOLTAGES:PB AND (REC) MODE
CAPSTAN MOTOR
CAPSTAN MOTOR
PG01M
1 CAPST. GAIN
2 GND
3 C. FG
4 CAPST. SERVO
5 REVERSE
6 A5.4V
7 V. CAPST
To SERVO [SSJ] PG609 [P5-15]

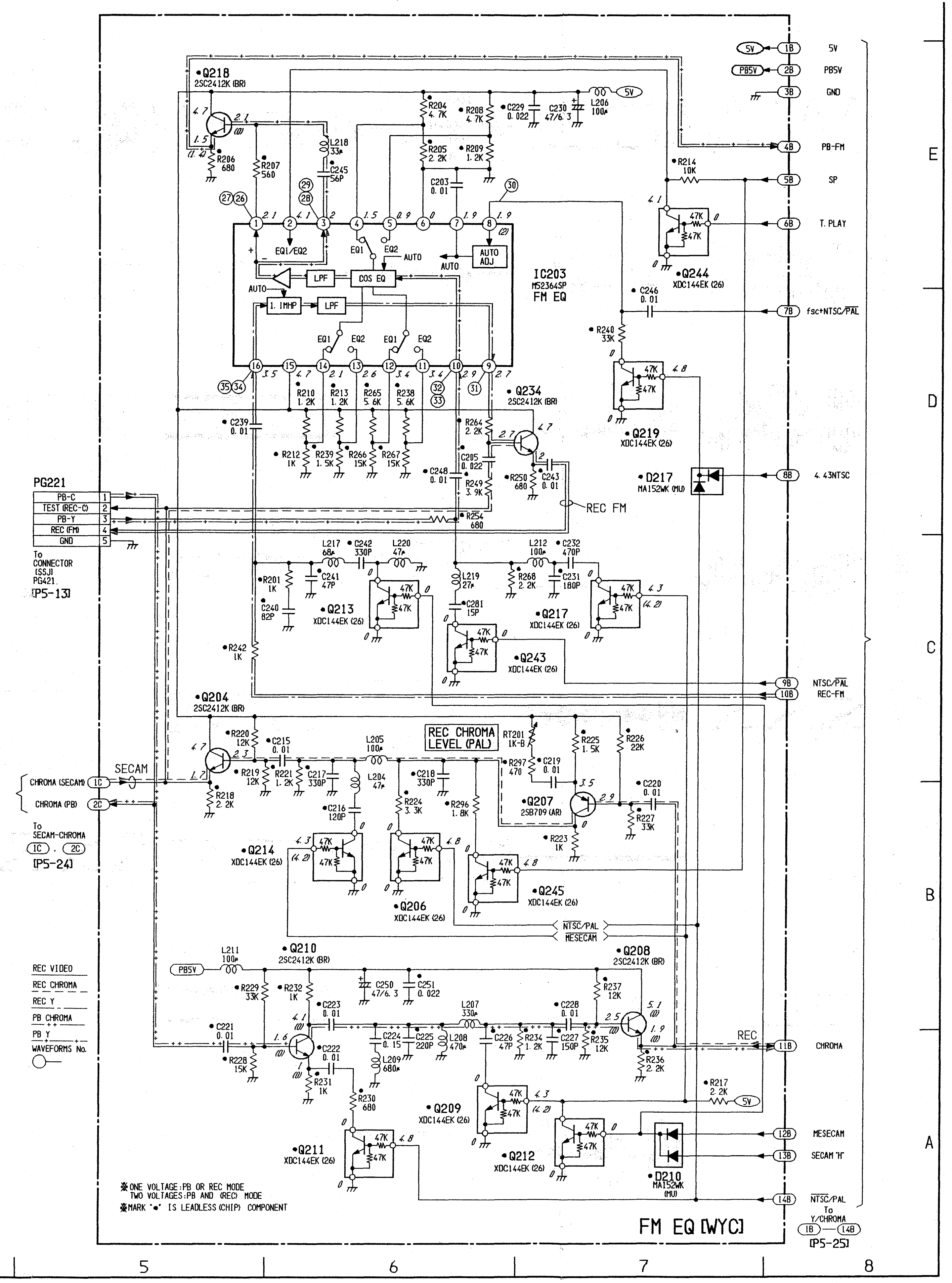
PRE/REC AMP [PRE] SCHEMATIC DIAGRAM


PG1
LP (EP) CH-1 (PB)
LP (EP) REC
LP (EP) CH-2 (PB)
GND
SP CH-2 (PB)
SP REC
SP CH-1 (PB)
GND
LP (EP) CH-1 REC/PB HEAD
LP (EP) CH-2 REC/PB HEAD
SP CH-2 REC/PB HEAD
SP CH-1 REC/PB HEAD
CH-2 AUDIO REC/PB HEAD
CH-1 AUDIO REC/PB HEAD
CH-2 (A PB)
AUDIO (REC)
CH-1 (A PB)
IC1
HA118162NT
VIDEO HEAD AMP
S1, S2: SP REC
S3, S4: LP/EP REC
S5, S6: LP/EP
S9: PB
S11: REC
S7, S8: SP
S10: PB
S12: REC
SP CH-1
SP CH-2
LP/EP CH-2
LP/EP CH-1
REC
AGC DET
REC AGC
FM AGC
DET
LOGIC
TRICK PB
S5-S8: OPEN
IC2
BA7740S
Hi-Fi AUDIO PROCESS
CH-2 PRE AMP
CH-1 PRE AMP
REC AMP
AGC
VCA
GAIN CHANGE
S3 Lo: ON
S1 Hi: ON
S2 Hi: ON
S1-S3
Q1 2SC1740S
Q3 2SC1740S
Q4 2SC1740S
Q5 2SC1740S
Q6 XDC144ES
Q7 XDC144ES
Q13 XDC144ES
D1 1SS254
D2 1SS254
IC3
BA7047S
FM DET
COMP
TIM
PG3
GND
REC FM
PB FM
PB C
A5.4V
SP
SW25Hz
GND
REC9V
SP
TRN. SRH/FHS.
SYNC/R. MUTE
CHROMA 25Hz
ENV. (VIDEO)
To CONNECTOR (SSJ) PG406 [P5-13]
To CONNECTOR (SSJ) PG403 [P5-13]
PG4
GND
SW25Hz-A
AUDIO (REC)
AUDIO (PB)
ENV. (AUDIO)
To JACK-2 (SSJ) PG404 [P5-11] [P5-12]
REC9V
A5.4V
:REC SIGNAL
:PB SIGNAL
※ONE VOLTAGE: PB OR REC MODE
TWO VOLTAGES: PB AND (REC) MODE
PRE/REC AMP [PRE]
1
2
3
4
5
6
7
8
A
B
C
D
E

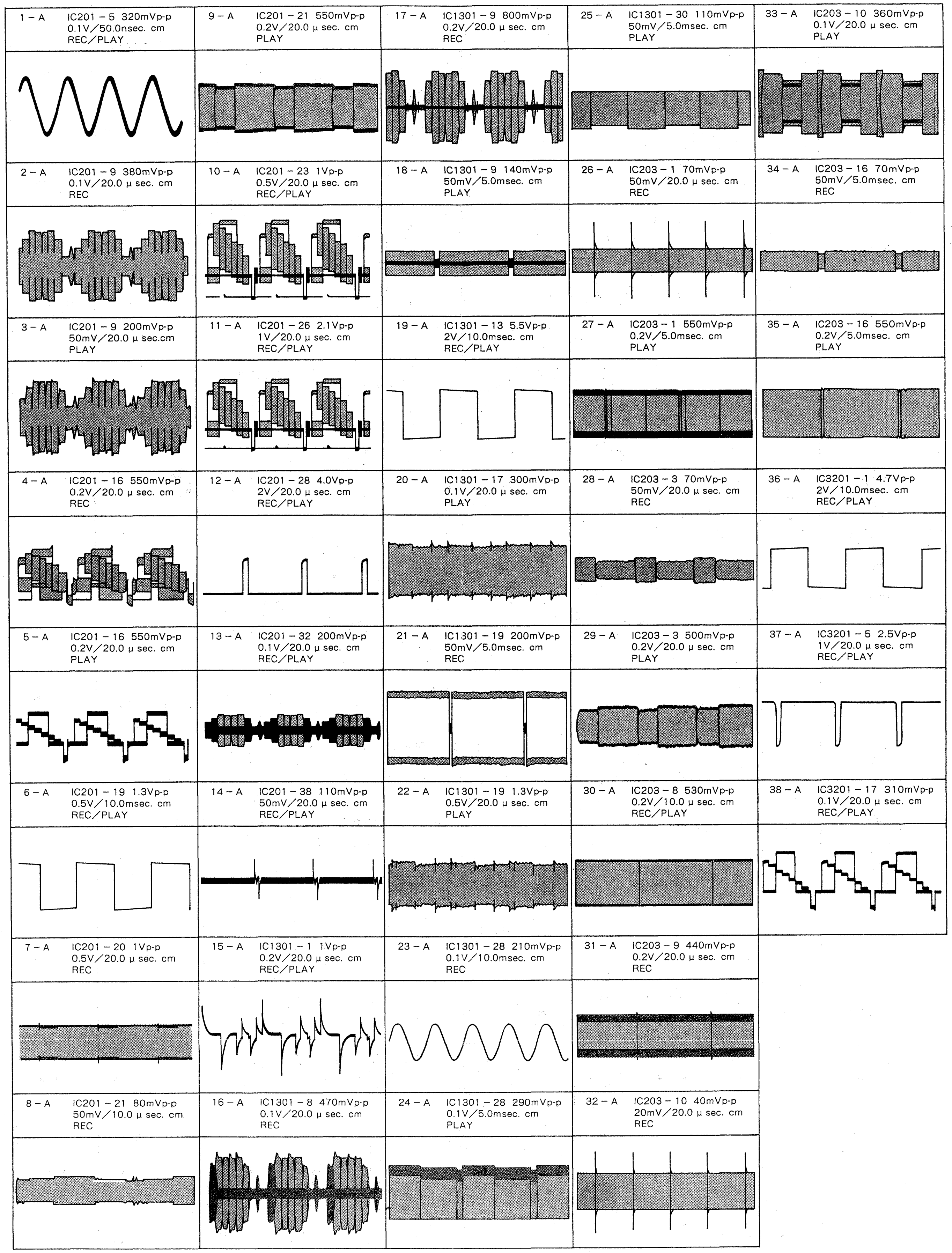
Y-DELAY [YD] SCHEMATIC DIAGRAM


CP2201
DLW36F
400ns DELAY
100ns 40ns DELAY
GND
GND
C2283 47/6.3
PG2226
3.58NTSC
DELAY
GND
DELAY
5V
SECAM'H'
To Y/CHROMA (WYC) PG226
[P5-25]
C2287 0.01
•IC2202
HA118070FP
AMP SW/GAIN CONT.
GAIN CONT.
GND
GAIN CONT.
VCC
S1
C2285 10/16
R2297 10K
R2299 1.2K
C2284 10/16
R2296 10K
R2298 1.2K
※ONE VOLTAGE:PB OR REC MODE
TWO VOLTAGES:PB AND (REC) MODE
※MARK '•' IS LEADLESS (CHIP) COMPONENT
Y-DELAY [YD]

FM EQ [WYC] SCHEMATIC DIAGRAM

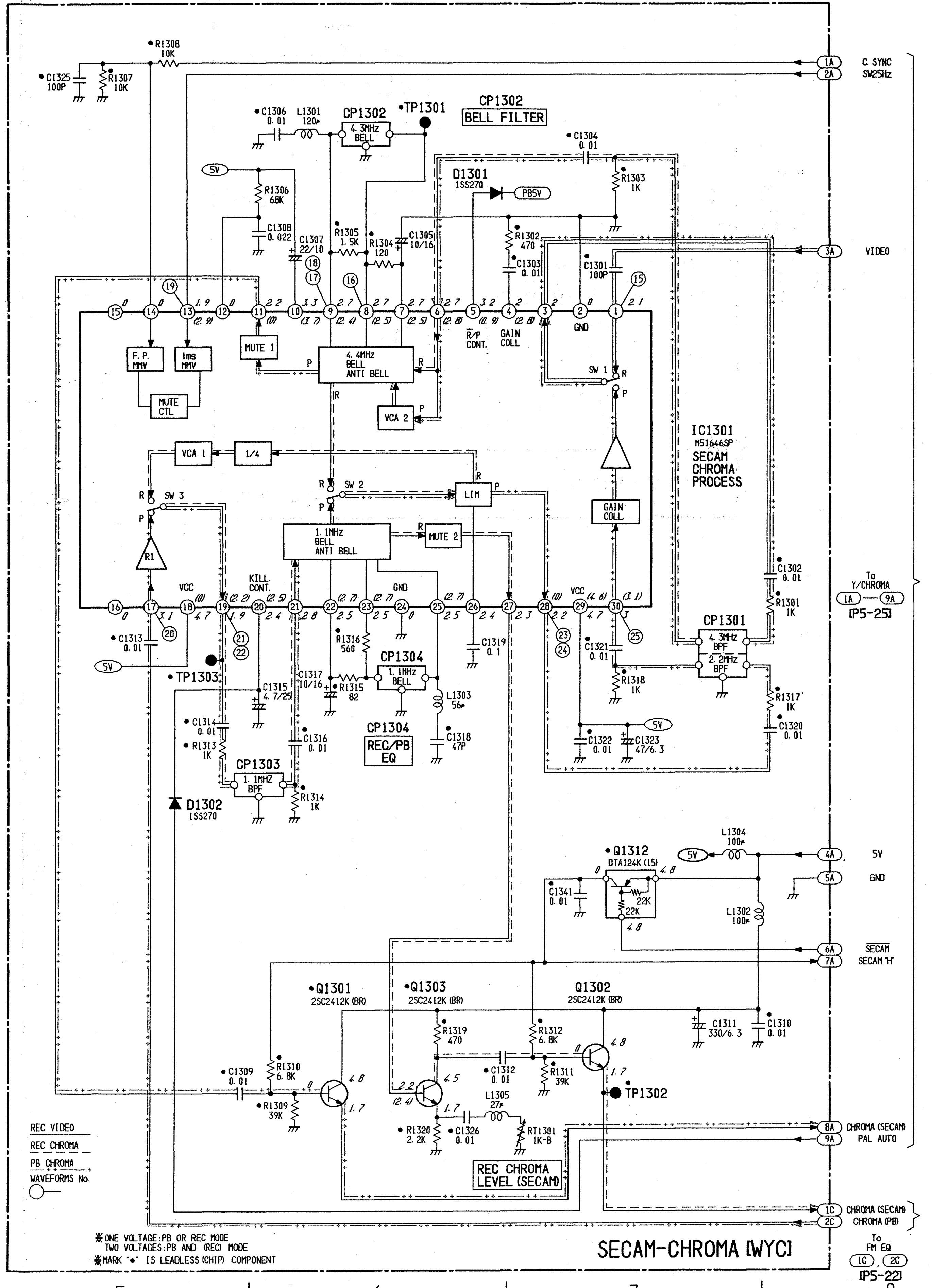

•Q218
2SC2412K (BR)
R206 680
R207 560
L218 33μ
C245 56P
R204 4.7K
R208 4.7K
C229 0.022
C230 47/6.3
L206 100μ
5V
R205 2.2K
R209 1.2K
C203 0.01
IC203
M52364SP
FM EQ
EQ1/EQ2
EQ1
EQ2
AUTO
AUTO ADJ
LPF
COS EQ
I. IMHP
LPF
R210 1.2K
R213 1.2K
R265 5.6K
R238 5.6K
C239 0.01
R212 1K
R239 1.5K
R266 15K
R267 15K
•Q234
2SC2412K (BR)
R264 2.2K
C205 0.022
C248 0.01
R249 3.9K
R250 680
C243 0.01
R254 680
REC FM
PG221
PB-C
TEST (REC-C)
PB-Y
REC (FM)
GND
To CONNECTOR (SSJ) PG421
[P5-13]
L217 68μ
C242 330P
L220 47μ
R201 1K
C241 47P
C240 82P
•Q213
XDC144EK (26)
L219 27μ
C281 15P
•Q243
XDC144EK (26)
L212 100μ
C232 470P
R268 2.2K
C231 180P
•Q217
XDC144EK (26)
R242 1K
R214 10K
•Q244
XDC144EK (26)
C246 0.01
R240 33K
•Q219
XDC144EK (26)
•D217
MA152WK (MU)
5V
PB5V
GND
PB-FM
SP
T.PLAY
fsc+NTSC/PAL
4.43NTSC
NTSC/PAL
REC-FM
•Q204
2SC2412K (BR)
R220 12K
C215 0.01
L205 100μ
REC CHROMA LEVEL (PAL)
RT201 1K-B
R225 1.5K
R226 22K
SECAM
CHROMA (SECAM)
CHROMA (PB)
To SECAM-CHROMA
[P5-24]
R219 12K
R221 1.2K
C217 330P
L204 47μ
C218 330P
R297 470
C219 0.01
C220 0.01
R218 2.2K
C216 120P
R224 3.3K
R296 1.8K
•Q207
2SB709 (AR)
R227 33K
R223 1K
•Q214
XDC144EK (26)
•Q206
XDC144EK (26)
•Q245
XDC144EK (26)
NTSC/PAL
MESECAM
L211 100μ
•Q210
2SC2412K (BR)
PB5V
•Q208
2SC2412K (BR)
R229 33K
R232 1K
C250 47/6.3
C251 0.022
R237 12K
C223 0.01
L207 330μ
C228 0.01
C221 0.01
C222 0.01
C224 0.15
C225 220P
L208 470μ
C226 47P
R234 1.2K
C227 150P
R235 12K
REC
CHROMA
R228 15K
L209 680μ
R236 2.2K
R231 1K
R230 680
R217 2.2K
•Q209
XDC144EK (26)
•Q212
XDC144EK (26)
•Q211
XDC144EK (26)
MESECAM
SECAM'H'
•D210
MA152WK (MU)
NTSC/PAL
To Y/CHROMA
[P5-25]
REC VIDEO
REC CHROMA
REC Y
PB CHROMA
PB Y
WAVEFORMS No.
※ONE VOLTAGE:PB OR REC MODE
TWO VOLTAGES:PB AND (REC) MODE
※MARK '•' IS LEADLESS (CHIP) COMPONENT
FM EQ [WYC]
E
D
C
B
A
1
2
3
4
5
6
7
8

VIDEO WAVEFORMS



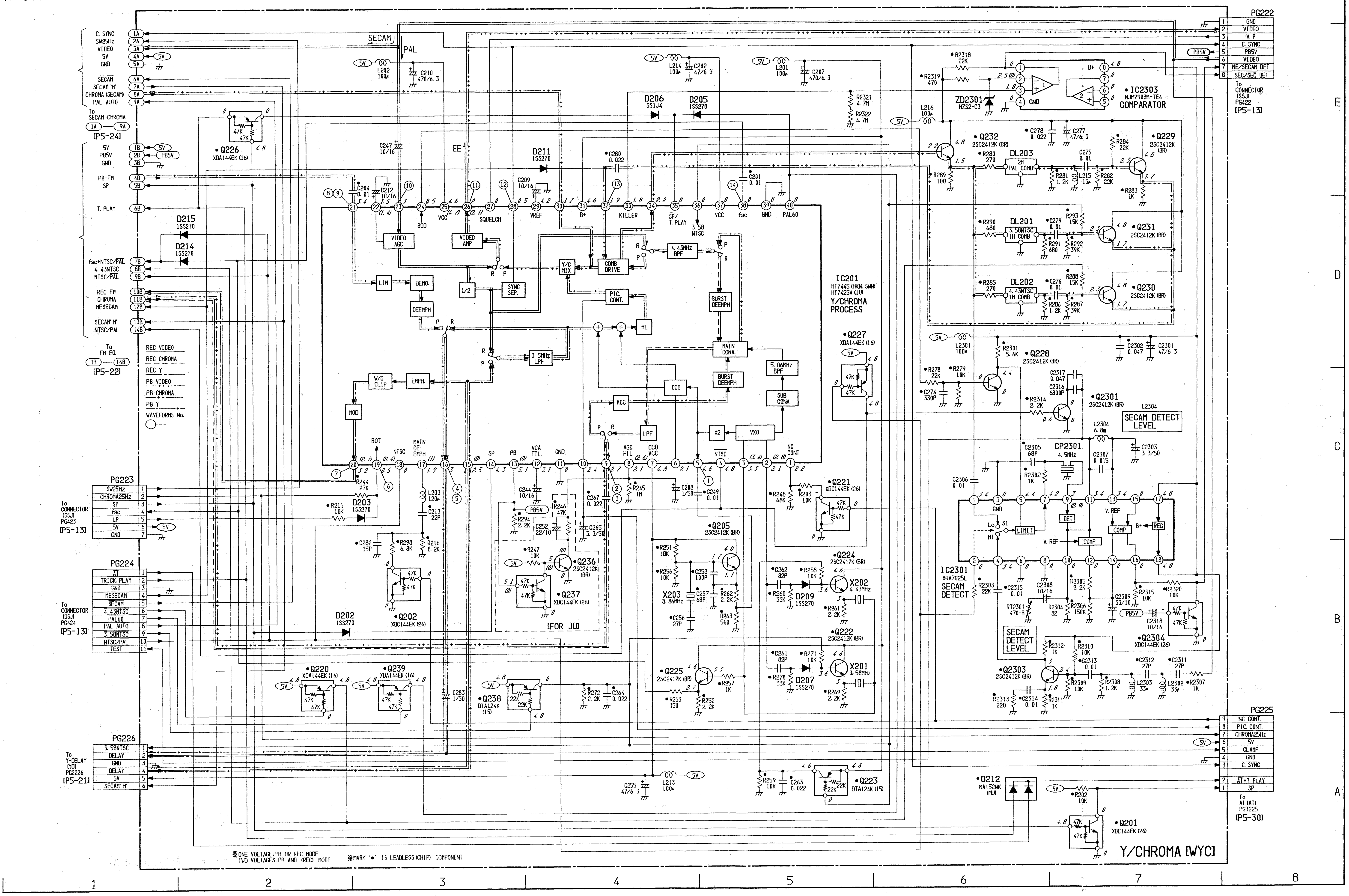
1 – A IC201 – 5 320mVp-p 0.1V／50.0nsec. cm REC／PLAY
2 – A IC201 – 9 380mVp-p 0.1V／20.0 µ sec. cm REC
3 – A IC201 – 9 200mVp-p 50mV／20.0 µ sec.cm PLAY
4 – A IC201 – 16 550mVp-p 0.2V／20.0 µ sec. cm REC
5 – A IC201 – 16 550mVp-p 0.2V／20.0 µ sec. cm PLAY
6 – A IC201 – 19 1.3Vp-p 0.5V／10.0msec. cm REC／PLAY
7 – A IC201 – 20 1Vp-p 0.5V／20.0 µ sec. cm REC
8 – A IC201 – 21 80mVp-p 50mV／10.0 µ sec. cm REC
9 – A IC201 – 21 550mVp-p 0.2V／20.0 µ sec. cm PLAY
10 – A IC201 – 23 1Vp-p 0.5V／20.0 µ sec. cm REC／PLAY
11 – A IC201 – 26 2.1Vp-p 1V／20.0 µ sec. cm REC／PLAY
12 – A IC201 – 28 4.0Vp-p 2V／20.0 µ sec. cm REC／PLAY
13 – A IC201 – 32 200mVp-p 0.1V／20.0 µ sec. cm REC／PLAY
14 – A IC201 – 38 110mVp-p 50mV／20.0 µ sec. cm REC／PLAY
15 – A IC1301 – 1 1Vp-p 0.2V／20.0 µ sec. cm REC／PLAY
16 – A IC1301 – 8 470mVp-p 0.1V／20.0 µ sec. cm REC
17 – A IC1301 – 9 800mVp-p 0.2V／20.0 µ sec. cm REC
18 – A IC1301 – 9 140mVp-p 50mV／5.0msec. cm PLAY
19 – A IC1301 – 13 5.5Vp-p 2V／10.0msec. cm REC／PLAY
20 – A IC1301 – 17 300mVp-p 0.1V／20.0 µ sec. cm PLAY
21 – A IC1301 – 19 200mVp-p 50mV／5.0msec. cm REC
22 – A IC1301 – 19 1.3Vp-p 0.5V／20.0 µ sec. cm PLAY
23 – A IC1301 – 28 210mVp-p 0.1V／10.0msec. cm REC
24 – A IC1301 – 28 290mVp-p 0.1V／5.0msec. cm PLAY
25 – A IC1301 – 30 110mVp-p 50mV／5.0msec. cm PLAY
26 – A IC203 – 1 70mVp-p 50mV／20.0 µ sec. cm REC
27 – A IC203 – 1 550mVp-p 0.2V／5.0msec. cm PLAY
28 – A IC203 – 3 70mVp-p 50mV／20.0 µ sec. cm REC
29 – A IC203 – 3 500mVp-p 0.2V／20.0 µ sec. cm PLAY
30 – A IC203 – 8 530mVp-p 0.2V／10.0 µ sec. cm REC／PLAY
31 – A IC203 – 9 440mVp-p 0.2V／20.0 µ sec. cm REC
32 – A IC203 – 10 40mVp-p 20mV／20.0 µ sec. cm REC
33 – A IC203 – 10 360mVp-p 0.1V／20.0 µ sec. cm PLAY
34 – A IC203 – 16 70mVp-p 50mV／5.0msec. cm REC
35 – A IC203 – 16 550mVp-p 0.2V／5.0msec. cm PLAY
36 – A IC3201 – 1 4.7Vp-p 2V／10.0msec. cm REC／PLAY
37 – A IC3201 – 5 2.5Vp-p 1V／20.0 µ sec. cm REC／PLAY
38 – A IC3201 – 17 310mVp-p 0.1V／20.0 µ sec. cm REC／PLAY

SECAM-CHROMA [WYC] SCHEMATIC DIAGRAM


IC1301
M51646SP
SECAM CHROMA PROCESS
CP1302
BELL FILTER
4.3MHz BELL
TP1301
TP1302
TP1303
D1301 1SS270
D1302 1SS270
PB5V
5V
F.P. MMV
1ms MMV
MUTE CTL
MUTE 1
MUTE 2
4.4MHz BELL ANTI BELL
1.1MHz BELL ANTI BELL
VCA 1
VCA 2
1/4
SW 1
SW 2
SW 3
LIM
R1
GAIN COLL
R/P CONT.
GAIN COLL
KILL. CONT.
VCC
GND
CP1301
4.3MHz BPF
2.2MHz BPF
CP1303
1.1MHZ BPF
CP1304
1.1MHz BELL
REC/PB EQ
Q1301 2SC2412K (BR)
Q1302 2SC2412K (BR)
Q1303 2SC2412K (BR)
Q1312 DTA124K (15)
REC CHROMA LEVEL (SECAM)
RT1301 1K-B
L1301 120µ
L1302 100µ
L1303 56µ
L1304 100µ
L1305 27µ
1A C. SYNC
2A SW25Hz
3A VIDEO
4A 5V
5A GND
6A SECAM
7A SECAM 'H'
8A CHROMA (SECAM)
9A PAL AUTO
To Y/CHROMA
1A — 9A
[P5-25]
1C CHROMA (SECAM)
2C CHROMA (PB)
To FM EQ
1C, 2C
[P5-22]
REC VIDEO
REC CHROMA
PB CHROMA
WAVEFORMS No.
SECAM-CHROMA [WYC]
5
6
7
8

※ONE VOLTAGE:PB OR REC MODE
TWO VOLTAGES:PB AND (REC) MODE
※MARK "•" IS LEADLESS (CHIP) COMPONENT

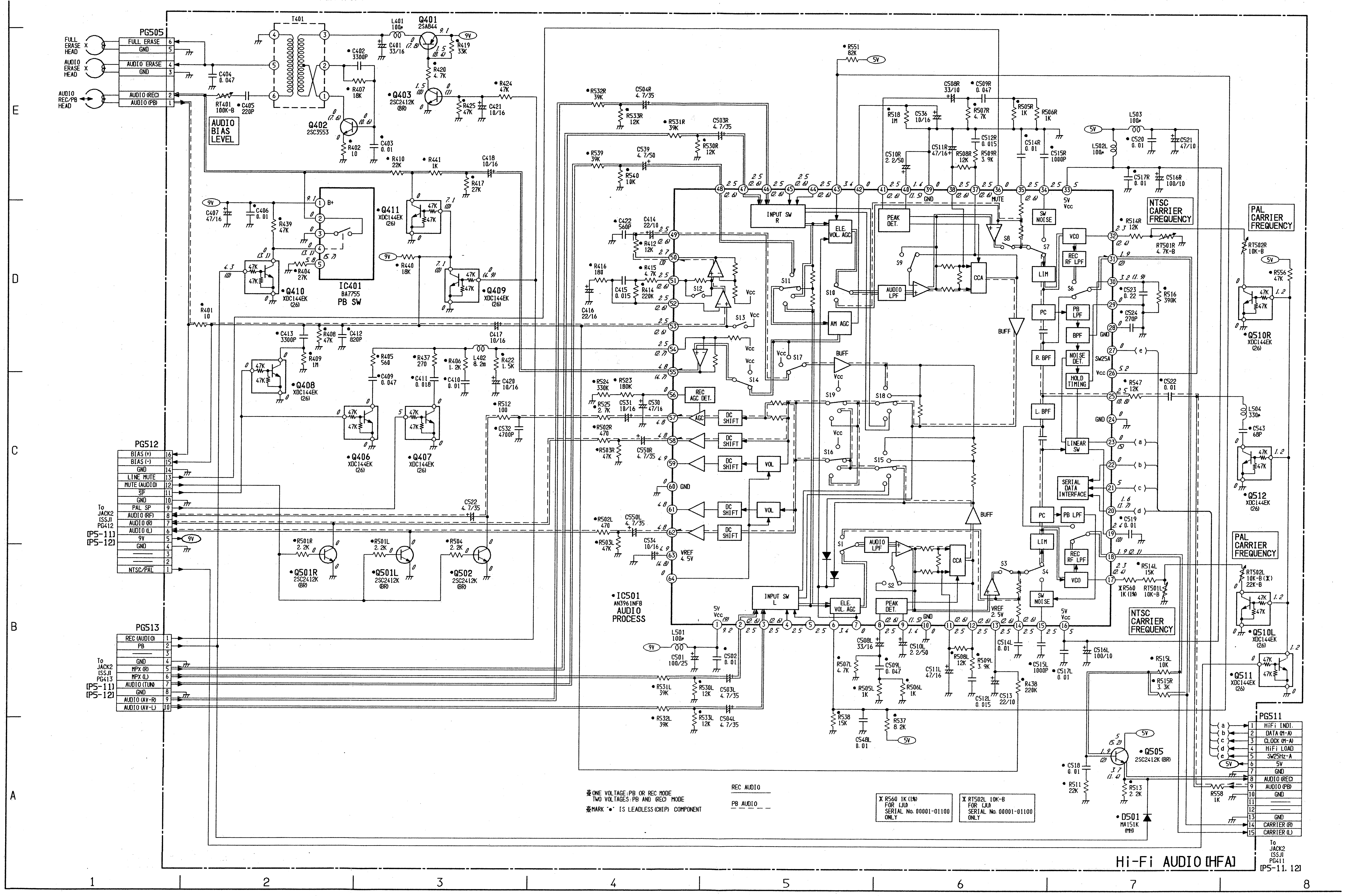
Y/CHROMA [WYC] SCHEMATIC DIAGRAM


C. SYNC
SW25Hz
VIDEO
5V
GND
SECAM
SECAM 'H'
CHROMA (SECAM)
PAL AUTO
To SECAM-CHROMA
1A — 9A
[P5-24]
5V
PB5V
GND
PB-FM
SP
T. PLAY
fsc+NTSC/PAL
4. 43NTSC
NTSC/PAL
REC FM
CHROMA
MESECAM
SECAM 'H'
NTSC/PAL
To FM EQ
1B — 14B
[P5-22]
REC VIDEO
REC CHROMA
REC Y
PB VIDEO
PB CHROMA
PB Y
WAVEFORMS No.
PG223
SW25Hz
CHROMA25Hz
SP
fsc
LP
5V
GND
To CONNECTOR [SSJ] PG423
[P5-13]
PG224
AT
TRICK PLAY
GND
MESECAM
SECAM
4. 43NTSC
PAL60
PAL AUTO
3. 58NTSC
NTSC/PAL
TEST
To CONNECTOR [SSJ] PG424
[P5-13]
PG226
3. 58NTSC
DELAY
GND
DELAY
5V
SECAM 'H'
To Y-DELAY [YD] PG2226
[P5-21]
IC201
HT7445 (HKN, SWN)
HT7425A (JU)
Y/CHROMA PROCESS
VIDEO AGC
VIDEO AMP
LIM
DEMO.
DEEMPH
1/2
SYNC SEP.
Y/C MIX
COMB DRIVE
PIC CONT.
4. 43MHz BPF
BURST DEEMPH
HL
3. 5MHz LPF
MAIN CONV.
5. 06MHz BPF
BURST DEEMPH
SUB CONV.
W/D CLIP
EMPH
MOD
CCD
ACC
LPF
X2
VXO
BGD
VCC
SQUELCH
VREF
B+
KILLER
SP/T. PLAY
3. 58 NTSC
fsc
GND
PAL60
ROT
NTSC
MAIN DE-EMPH
SP
PB
VCA FIL
AGC FIL
CCD VCC
NTSC
NC CONT
SECAM
PAL
EE
D206 SS1J4
D205 1SS270
D211 1SS270
D215 1SS270
D214 1SS270
D203 1SS270
D202 1SS270
D209 1SS270
D207 1SS270
Q226 XDA144EK (16)
Q227 XDA144EK (16)
Q221 XDC144EK (26)
Q205 2SC2412K (BR)
Q224 2SC2412K (BR)
Q222 2SC2412K (BR)
Q225 2SC2412K (BR)
Q236 2SC2412K (BR)
Q237 XDC144EK (26)
Q202 XDC144EK (26)
Q220 XDA144EK (16)
Q239 XDA144EK (16)
Q238 DTA124K (15)
Q223 DTA124K (15)
[FOR JU]
X203 8. 86MHz
X202 4. 43MHz
X201 3. 58MHz
L202 100μ
L214 100μ
L201 100μ
L213 100μ
IC2303 NJM2903M-TE4 COMPARATOR
ZD2301 HZS2-C3
L216 100μ
Q232 2SC2412K (BR)
Q229 2SC2412K (BR)
Q231 2SC2412K (BR)
Q230 2SC2412K (BR)
DL203 2H PAL COMB
DL201 3. 58NTSC 1H COMB
DL202 4. 43NTSC 1H COMB
L2301 100μ
Q228 2SC2412K (BR)
Q2301 2SC2412K (BR)
L2304
SECAM DETECT LEVEL
CP2301 4. 5MHz
IC2301 XRA7025L SECAM DETECT
GND
Lo S1 Hi
LIMIT
DET
COMP
V. REF
REG
Q2304 XDC144EK (26)
Q2303 2SC2412K (BR)
SECAM DETECT LEVEL
D212 MA152WK (M.U)
Q201 XDC144EK (26)
PG222
GND
VIDEO
V. P
C. SYNC
PB5V
VIDEO
ME/SECAM DET
SEC/SEC DET
To CONNECTOR [SSJ] PG422
[P5-13]
PG225
NC CONT
PIC CONT.
CHROMA25Hz
5V
CLAMP
GND
C. SYNC
AI+T. PLAY
SP
To AI [AI] PG3225
[P5-30]
Y/CHROMA [WYC]
A
B
C
D
E
1
2
3
4
5
6
7
8

※ONE VOLTAGE:PB OR REC MODE
TWO VOLTAGES:PB AND (REC) MODE

※MARK '●' IS LEADLESS (CHIP) COMPONENT

Hi-Fi AUDIO [HFA] SCHEMATIC DIAGRAM



FULL ERASE HEAD
AUDIO ERASE HEAD
AUDIO REC/PB HEAD
PG505
FULL ERASE
GND
AUDIO ERASE
GND
AUDIO (REC)
AUDIO (PB)
T401
L401 100μ
Q401 2SA844
C401 33/16
R419 33K
C402 3300P
R420 4.7K
Q403 2SC2412K (BR)
R407 18K
R424 47K
R425 47K
C421 10/16
C404 0.047
RT401 100K-B
C405 220P
AUDIO BIAS LEVEL
Q402 2SC3553
R402 10
C403 0.01
R410 22K
R441 1K
C418 10/16
R417 27K
C407 47/16
C406 0.01
R439 47K
B+
Q411 XDC144EK (26)
R404 27K
R440 18K
IC401 BA7755 PB SW
Q410 XDC144EK (26)
Q409 XDC144EK (26)
R401 10
C413 3300P
R408 47K
C412 820P
R409 1M
C417 10/16
Q408 XDC144EK (26)
R405 560
R437 270
R406 1.2K
L402 8.2m
R422 1.5K
C409 0.047
C411 0.018
C410 0.01
C420 10/16
R512 100
C532 4700P
Q406 XDC144EK (26)
Q407 XDC144EK (26)
PG512
BIAS (+)
BIAS (−)
GND
LINE MUTE
MUTE (AUDIO)
SP
GND
PAL SP
AUDIO (RF)
AUDIO (R)
AUDIO (L)
9V
GND
NTSC/PAL
To JACK2 [SSJ] PG412 [P5-11] [P5-12]
C522 4.7/35
R501R 2.2K
R501L 2.2K
R504 2.2K
Q501R 2SC2412K (BR)
Q501L 2SC2412K (BR)
Q502 2SC2412K (BR)
PG513
REC (AUDIO)
PB
GND
MPX (R)
MPX (L)
AUDIO (TUN)
GND
AUDIO (AV-R)
AUDIO (AV-L)
To JACK2 [SSJ] PG413 [P5-11] [P5-12]
R532R 39K
C504R 4.7/35
R533R 12K
R531R 39K
C503R 4.7/35
R530R 12K
R539 39K
C539 4.7/50
R540 10K
C422 560P
C414 22/10
R412 12K
R416 180
R415 4.7K
C415 0.015
R414 220K
C416 22/16
R524 330K
R523 180K
R525 2.7K
C531 10/16
C530 47/16
R502R 470
R503R 47K
C550R 4.7/35
R502L 470
C550L 4.7/35
R503L 47K
C534 10/16
VREF 4.5V
REC AGC DET.
AGC
DC SHIFT
VOL
GND
IC501 AN3961NFB AUDIO PROCESS
INPUT SW R
INPUT SW L
ELE. VOL. AGC
AM AGC
PEAK DET.
AUDIO LPF
CCA
BUFF
SW NOISE
VCO
REC RF LPF
LIM
PC
PB LPF
BPF
NOISE DET.
HOLD TIMING
R. BPF
L. BPF
LINEAR SW
SERIAL DATA INTERFACE
MUTE
5V Vcc
S1 S2 S3 S4 S6 S7 S8 S9 S10 S11 S12 S13 S14 S15 S16 S17 S18 S19
R551 82K
C508R 33/10
C509R 0.047
R518 1M
C536 10/16
R507R 4.7K
R505R 1K
R506R 1K
C512R 0.015
C510R 2.2/50
C511R 47/16
R508R 12K
R509R 3.9K
C514R 0.01
C515R 1000P
L503 100μ
C520 0.01
C521 47/10
L502L 100μ
C517R 0.01
C516R 100/10
NTSC CARRIER FREQUENCY
PAL CARRIER FREQUENCY
R514R 12K
RT501R 4.7K-B
RT502R 10K-B
R556 47K
Q510R XDC144EK (26)
C523 0.22
R516 390K
C524 270P
SW25A
R547 12K
C522 0.01
L504 330μ
C543 68P
Q512 XDC144EK (26)
C519 0.01
R514L 15K
RT502L 10K-B (※) 22K-B
R560 1K (1%)
RT501L 10K-B
Q510L XDC144EK (26)
L501 100μ
C501 100/25
C502 0.01
R531L 39K
R530L 12K
C503L 4.7/35
R532L 39K
R533L 12K
C504L 4.7/35
C508L 33/16
R507L 4.7K
C509L 0.047
C510L 2.2/50
R505L 1K
R506L 1K
C511L 47/16
R508L 12K
R509L 3.9K
C512L 0.015
C513 22/10
R438 220K
C514L 0.01
C515L 1000P
C517L 0.01
C516L 100/10
R515L 10K
R515R 3.3K
Q511 XDC144EK (26)
R538 15K
C548L 0.01
R537 8.2K
Q505 2SC2412K (BR)
C518 0.01
R511 22K
R513 2.2K
D501 MA151K (M1)
R558 1K
PG511
HiFi INDI.
DATA (M-A)
CLOCK (M-A)
HiFi LOAD
SW25Hz-A
5V
GND
AUDIO (REC)
AUDIO (PB)
GND
GND
CARRIER (R)
CARRIER (L)
To JACK2 [SSJ] PG411 [P5-11, 12]
9V
5V
E
D
C
B
A
1 2 3 4 5 6 7 8

※ONE VOLTAGE:PB OR REC MODE
TWO VOLTAGES:PB AND (REC) MODE

※MARK "●" IS LEADLESS (CHIP) COMPONENT

REC AUDIO ———

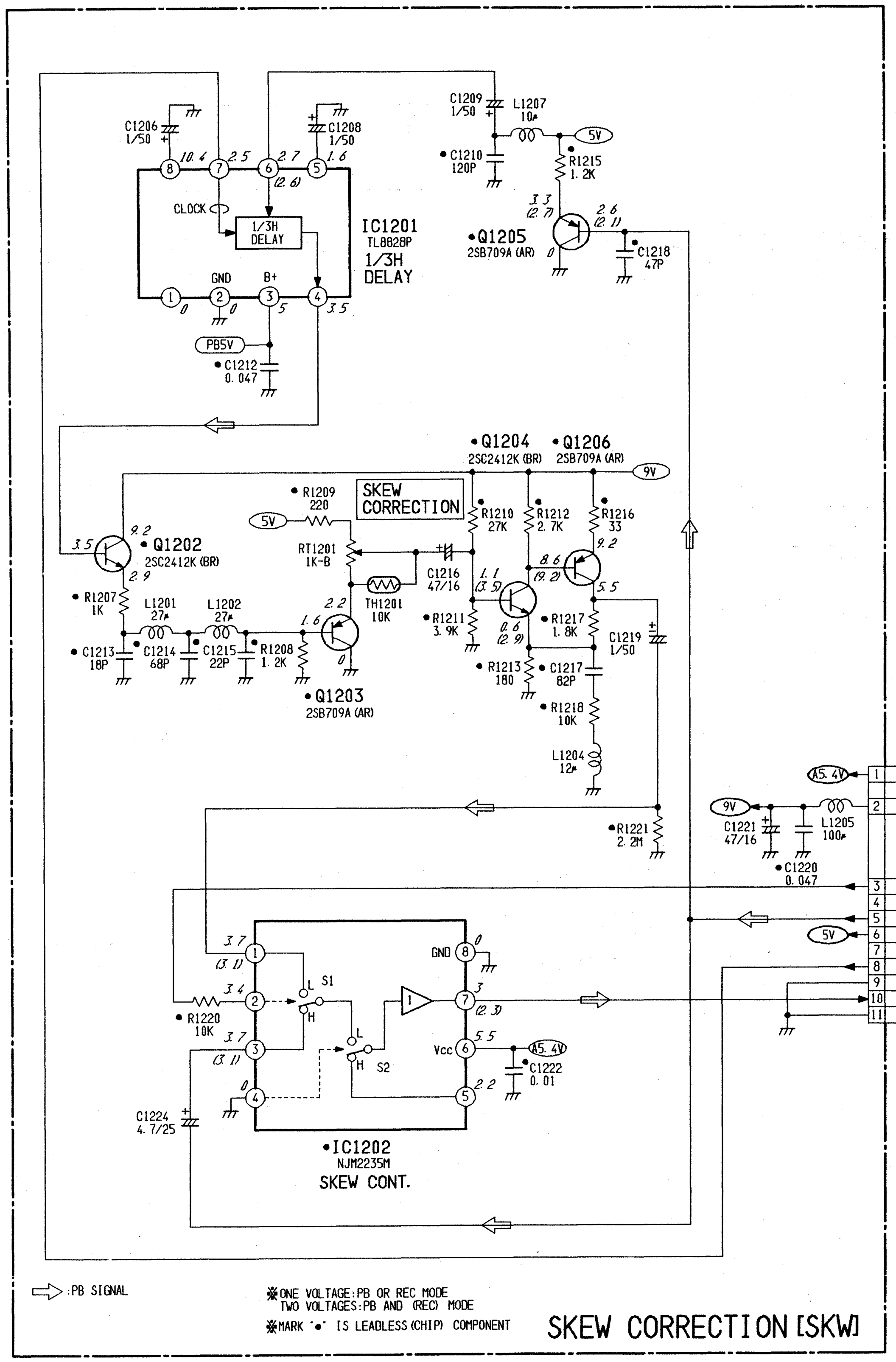
PB AUDIO - - -

※ R560 1K (1%)
FOR (JU)
SERIAL No. 00001-01100
ONLY

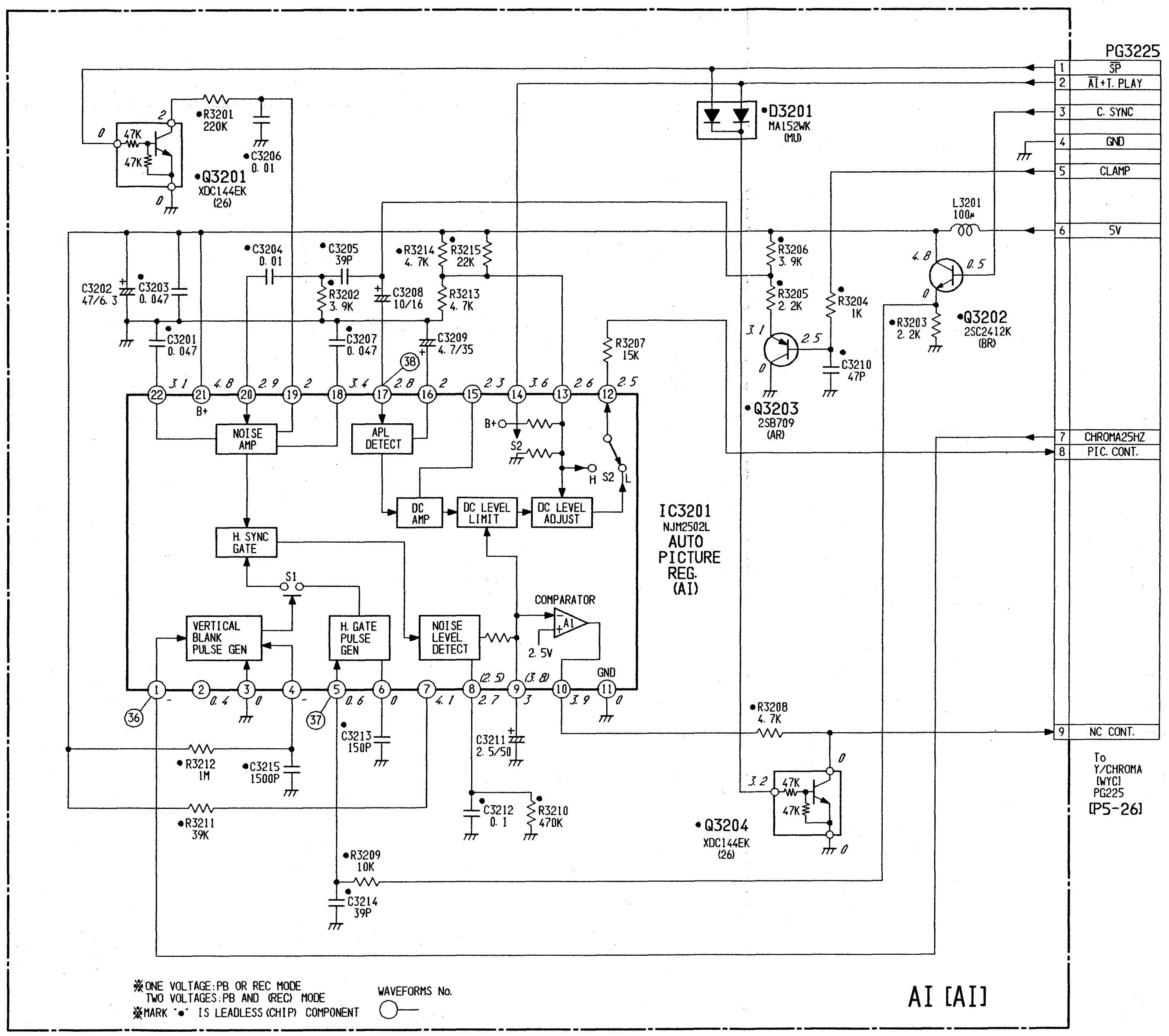
※ RT502L 10K-B
FOR (JU)
SERIAL No. 00001-01100
ONLY

Hi-Fi AUDIO [HFA]

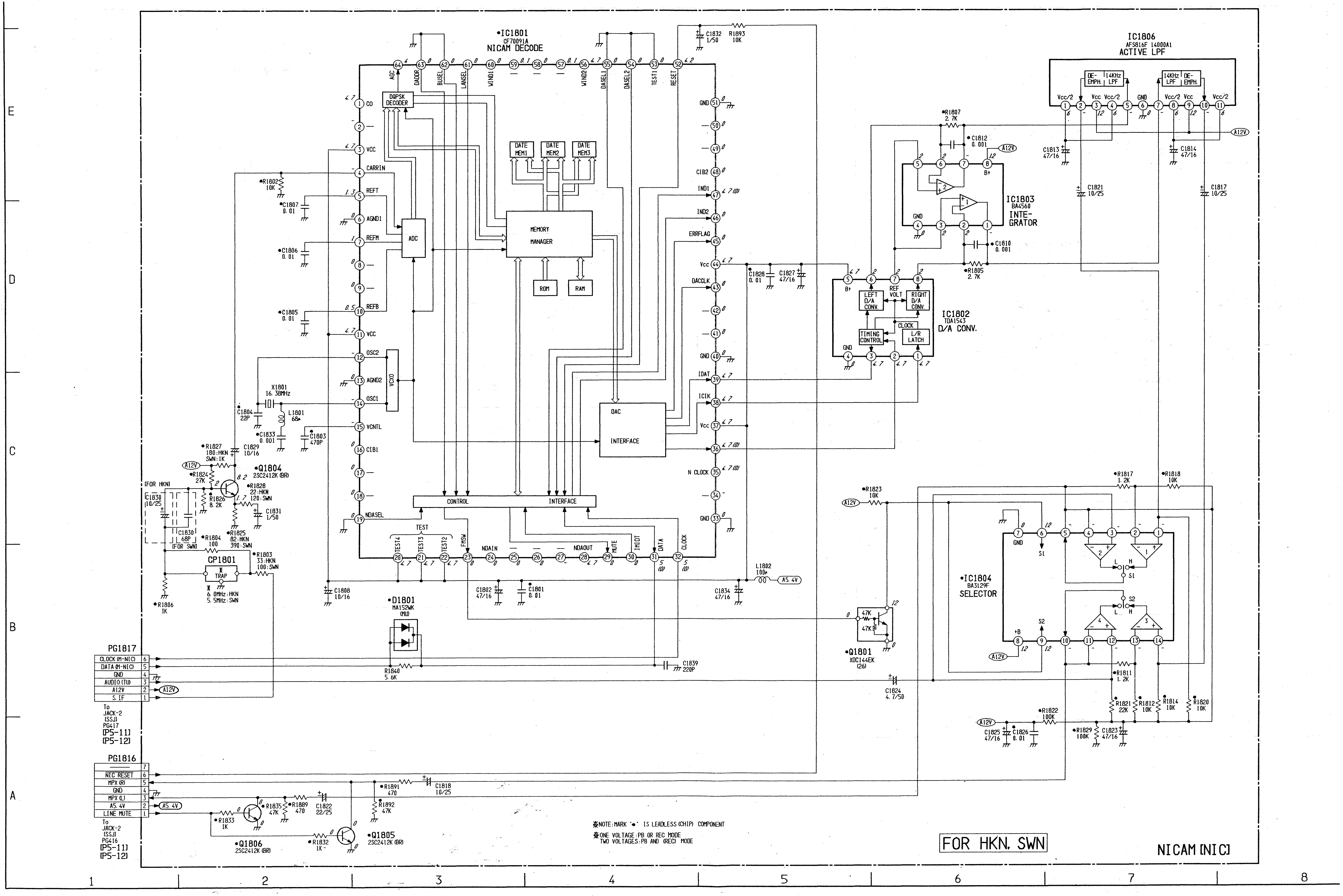
SKEW CORRECTION [SKW] SCHEMATIC DIAGRAM


IC1201
TL8828P
1/3H DELAY
1/3H DELAY
CLOCK
GND
B+
PB5V
C1206 1/50
C1208 1/50
C1209 1/50
C1210 120P
C1212 0.047
L1207 10μ
5V
R1215 1.2K
Q1205
2SB709A (AR)
C1218 47P
Q1204
2SC2412K (BR)
Q1206
2SB709A (AR)
9V
R1209 220
SKEW CORRECTION
RT1201 1K-B
TH1201 10K
C1216 47/16
R1210 27K
R1212 2.7K
R1216 33
R1211 3.9K
R1213 180
R1217 1.8K
C1217 82P
R1218 10K
C1219 1/50
L1204 12μ
R1221 2.2M
Q1202
2SC2412K (BR)
R1207 1K
L1201 27μ
L1202 27μ
C1213 18P
C1214 68P
C1215 22P
R1208 1.2K
Q1203
2SB709A (AR)
PG1225
A5.4V
9V
SKEW CONT.
VIDEO
5V
CLOCK
GND
VIDEO
GND
C1221 47/16
L1205 100μ
C1220 0.047
To CONNECTOR [SSJ] PG425 [P5-13]
IC1202
NJM2235M
SKEW CONT.
S1
S2
L
H
GND
Vcc
R1220 10K
C1224 4.7/25
C1222 0.01
A5.4V
5V
:PB SIGNAL
※ONE VOLTAGE:PB OR REC MODE
TWO VOLTAGES:PB AND (REC) MODE
※MARK "•" IS LEADLESS (CHIP) COMPONENT
SKEW CORRECTION [SKW]

AI [AI] SCHEMATIC DIAGRAM


PG3225
SP
AI+T.PLAY
C.SYNC
GND
CLAMP
5V
CHROMA25HZ
PIC.CONT.
NC CONT.
To Y/CHROMA [WYC] PG225 [P5-26]
D3201
MA152WK (MU)
Q3201
XDC144EK (26)
R3201 220K
C3206 0.01
47K
C3202 47/6.3
C3203 0.047
C3201 0.047
C3204 0.01
C3205 39P
R3202 3.9K
C3207 0.047
C3208 10/16
R3214 4.7K
R3215 22K
R3213 4.7K
C3209 4.7/35
R3207 15K
R3206 3.9K
R3205 2.2K
R3204 1K
Q3203
2SB709 (AR)
C3210 47P
L3201 100μ
Q3202
2SC2412K (BR)
R3203 2.2K
IC3201
NJM2502L
AUTO PICTURE REG. (AI)
NOISE AMP
APL DETECT
DC AMP
DC LEVEL LIMIT
DC LEVEL ADJUST
H.SYNC GATE
VERTICAL BLANK PULSE GEN
H.GATE PULSE GEN
NOISE LEVEL DETECT
COMPARATOR
2.5V
GND
B+
S1
S2
H
L
C3213 150P
C3215 1500P
R3212 1M
R3211 39K
C3211 2.5/50
C3212 0.1
R3210 470K
R3209 10K
C3214 39P
R3208 4.7K
Q3204
XDC144EK (26)
※ONE VOLTAGE:PB OR REC MODE
TWO VOLTAGES:PB AND (REC) MODE
※MARK "•" IS LEADLESS (CHIP) COMPONENT
WAVEFORMS No.
AI [AI]

NICAM [NIC] SCHEMATIC DIAGRAM (For HKN. SWN)



•IC1801
CF70091A
NICAM DECODE
DQPSK DECODER
ADC
MEMORY MANAGER
DATE MEM1
DATE MEM2
DATE MEM3
ROM
RAM
DAC INTERFACE
CONTROL INTERFACE
VCXO
CO
VCC
CARRIN
REFT
AGND1
REFM
REFB
OSC2
AGND2
OSC1
VCNTL
CIB1
NDASEL
TEST
TEST4
TEST3
TEST2
FMSW
NDAIN
NDAOUT
MUTE
IMIDT
DATA
CLOCK
AGC
DAD08
BUSEL
LANSEL
WIND1
WIND2
DASEL1
DASEL2
TEST1
RESET
GND
CIB2
IND1
IND2
ERRFLAG
Vcc
DACCLK
IDAT
ICIK
N CLOCK
C1832 1/50
R1893 10K
•R1802 10K
•C1807 0.01
•C1806 0.01
•C1805 0.01
X1801 16.38MHz
L1801 68μ
C1804 22P
•C1833 0.001
•C1803 470P
•R1827 180:HKN SWN:1K
C1829 10/16
•Q1804 2SC2412K (BR)
•R1824 27K
•R1826 8.2K
•R1828 22:HKN 120:SWN
C1831 1/50
•R1825 82:HKN 390:SWN
[FOR HKN]
C1830 10/25
C1830 68P
[FOR SWN]
•R1804 100
CP1801
TRAP
6.0MHz:HKN
5.5MHz:SWN
•R1803 33:HKN 100:SWN
•R1806 1K
C1808 10/16
•D1801 MA152WK (MD)
C1802 47/16
•C1801 0.01
L1802 100μ
A5.4V
C1834 47/16
C1828 0.01
C1827 47/16
R1840 5.6K
C1839 220P
PG1817
CLOCK (M-NIC)
DATA (M-NIC)
GND
AUDIO (TU)
A12V
S.IF
To JACK-2 [SSJ] PG417 [P5-11] [P5-12]
PG1816
NIC RESET
MPX (R)
GND
MPX (L)
A5.4V
LINE MUTE
To JACK-2 [SSJ] PG416 [P5-11] [P5-12]
•R1833 1K
•Q1806 2SC2412K (BR)
•R1835 47K
•R1889 470
C1822 22/25
•R1832 1K
•Q1805 2SC2412K (BR)
•R1891 470
•R1892 47K
C1818 10/25
IC1806
AFS816F 14000A1
ACTIVE LPF
DE-EMPH.
14KHz LPF
Vcc/2
GND
C1813 47/16
C1814 47/16
C1821 10/25
C1817 10/25
A12V
•R1807 2.7K
•C1812 0.001
IC1803 BA4560 INTE-GRATOR
B+
•C1810 0.001
•R1805 2.7K
IC1802 TDA1543 D/A CONV.
LEFT D/A CONV.
RIGHT D/A CONV.
REF VOLT
CLOCK
TIMING CONTROL
L/R LATCH
•R1823 10K
•R1817 1.2K
•R1818 10K
•IC1804 BA3129F SELECTOR
S1
S2
L
H
+B
•Q1801 XDC144EK (26)
47K
C1824 4.7/50
•R1811 1.2K
•R1821 22K
•R1812 10K
R1814 10K
R1820 10K
•R1822 100K
C1825 47/16
C1826 0.01
•R1829 100K
C1823 47/16
E
D
C
B
A
1
2
3
4
5
6
7
8

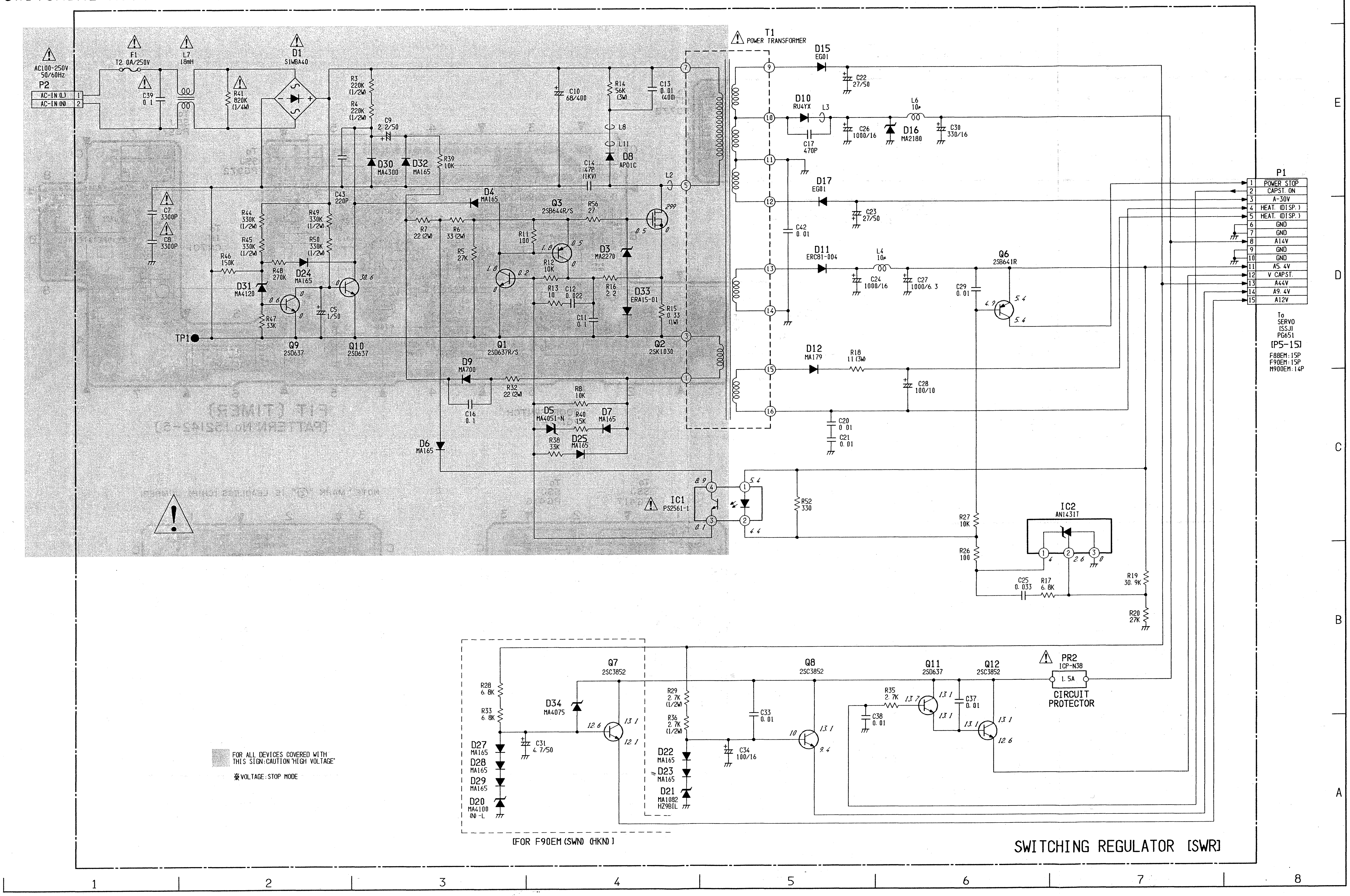
※NOTE: MARK '•' IS LEADLESS (CHIP) COMPONENT

※ONE VOLTAGE: PB OR REC MODE
TWO VOLTAGES: PB AND (REC) MODE

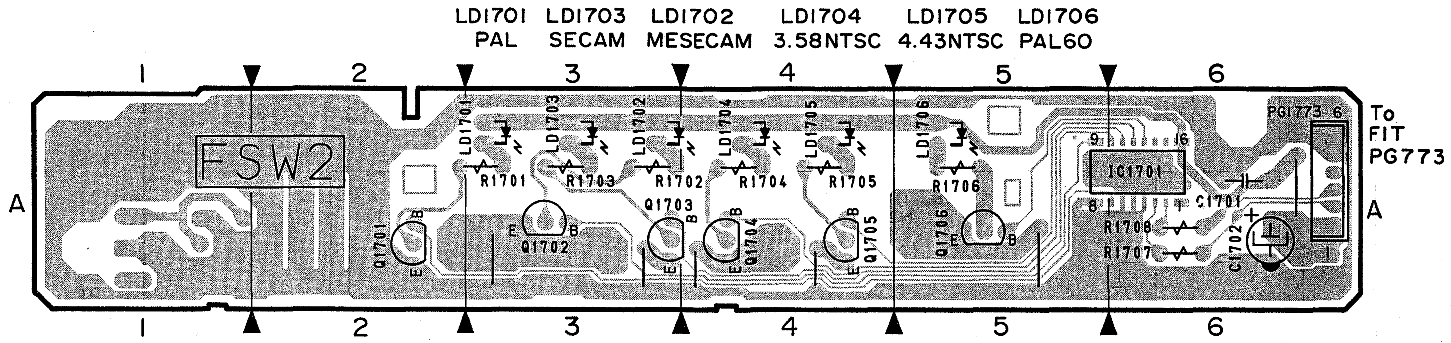
FOR HKN. SWN

NICAM [NIC]

SWITCHING REGULATOR [SWR] SCHEMATIC DIAGRAM

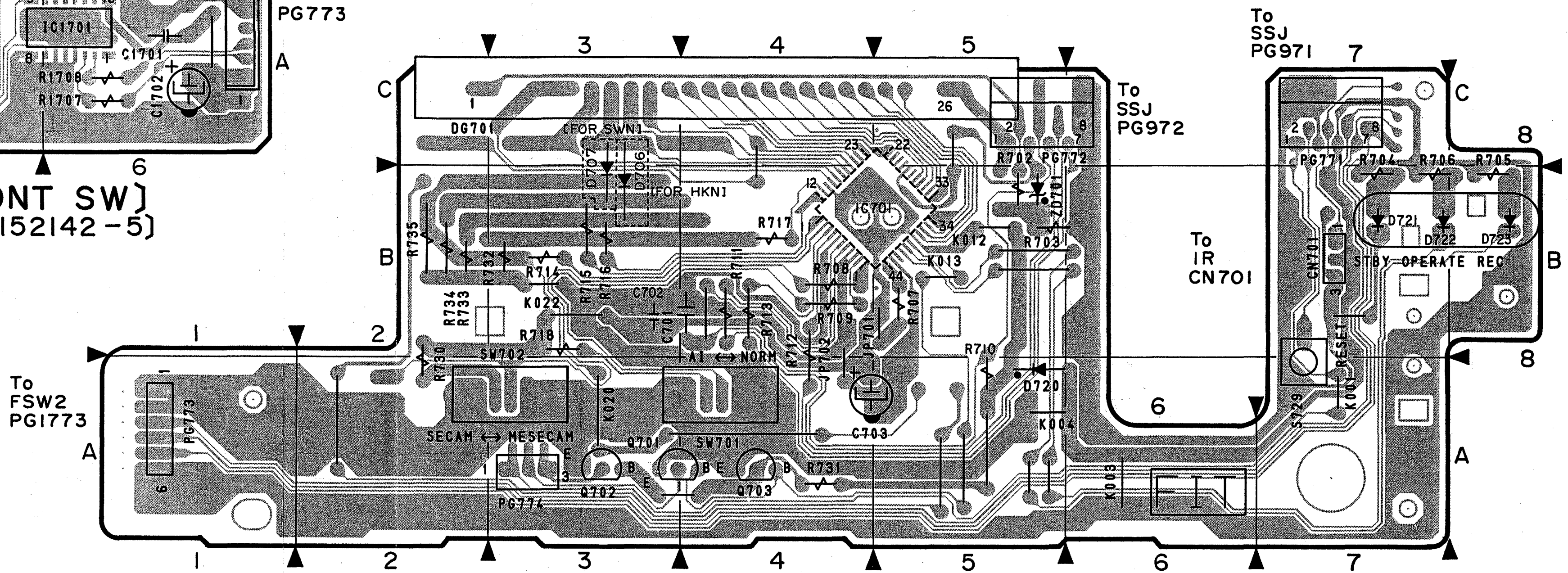

AC100-250V 50/60Hz
P2
AC-IN (L)
AC-IN (N)
F1 T2.0A/250V
L7 18mH
C39 0.1
R41 820K (1/4W)
D1 S1WBA40
R3 220K (1/2W)
R4 220K (1/2W)
C9 2.2/50
D30 MA4300
D32 MA165
R39 10K
C10 68/400
R14 56K (3W)
C13 0.01 (400)
L8
L11
D8 AP01C
C14 47P (1KV)
L2
T1 POWER TRANSFORMER
C7 3300P
C8 3300P
R44 330K (1/2W)
R45 330K (1/2W)
R46 150K
R48 270K
D24 MA165
R49 330K (1/2W)
R50 330K (1/2W)
C43 220P
D31 MA4120
R47 33K
C5 1/50
TP1
Q9 2SD637
Q10 2SD637
D4 MA165
R7 22 (2W)
R6 33 (2W)
R5 27K
R11 100
Q3 2SB644R/S
R56 27
Q2 2SK1030
R12 10K
R13 10
C12 0.022
R16 2.2
C11 0.1
D3 MA2270
D33 ERA15-01
R15 0.33 (1W)
Q1 2SD637R/S
D9 MA700
R32 22 (2W)
C16 0.1
R8 10K
D5 MA4051-N
R40 15K
D7 MA165
R38 33K
D25 MA165
D6 MA165
IC1 PS2561-1
R52 330
D15 EG01
C22 27/50
D10 RU4YX
L3
C17 470P
C26 1000/16
D16 MA2180
L6 10μ
C30 330/16
D17 EG01
C23 27/50
C42 0.01
D11 ERC81-004
L4 10μ
C24 1000/16
C27 1000/6.3
C29 0.01
Q6 2SB641R
D12 MA179
R18 11 (3W)
C28 100/10
C20 0.01
C21 0.01
R27 10K
R26 100
IC2 AN1431T
C25 0.033
R17 6.8K
R19 30.9K
R20 27K
P1
1 POWER STOP
2 CAPST. ON
3 A-30V
4 HEAT. (DISP.)
5 HEAT. (DISP.)
6 GND
7 GND
8 A14V
9 GND
10 GND
11 A5.4V
12 V CAPST.
13 A44V
14 A9.4V
15 A12V
To SERVO (SSJ) PG651 [P5-15]
F88EM:15P
F90EM:15P
M900EM:14P
R28 6.8K
R33 6.8K
D27 MA165
D28 MA165
D29 MA165
D20 MA4100 (N)-L
C31 4.7/50
D34 MA4075
Q7 2SC3852
R29 2.7K (1/2W)
R36 2.7K (1/2W)
C33 0.01
C34 100/16
D22 MA165
D23 MA165
D21 MA1082 HZ9BL
Q8 2SC3852
R35 2.7K
C38 0.01
Q11 2SD637
C37 0.01
Q12 2SC3852
PR2 ICP-N38
1.5A
CIRCUIT PROTECTOR
[FOR F90EM (SWN) (HKN)]
FOR ALL DEVICES COVERED WITH THIS SIGN: CAUTION 'HIGH VOLTAGE'
※VOLTAGE: STOP MODE
SWITCHING REGULATOR [SWR]
A
B
C
D
E
1
2
3
4
5
6
7
8

FSW2. FIT. IR. RJKM. NIC CIRCUIT BOARDS


LD1701 PAL
LD1703 SECAM
LD1702 MESECAM
LD1704 3.58NTSC
LD1705 4.43NTSC
LD1706 PAL60
1
2
3
4
5
6
A
FSW2
R1701
R1703
R1702
R1704
R1705
R1706
Q1701
Q1702
Q1703
Q1704
Q1705
Q1706
IC1701
C1701
C1702
R1708
R1707
PG1773
To FIT PG773

FSW2 (FRONT SW)

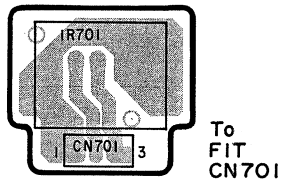
(PATTERN No.152142-5)


To SSJ PG972
To SSJ PG971
To IR CN701
To FSW2 PG1773
1
2
3
4
5
6
7
8
A
B
C
DG701
(FOR SWN)
(FOR HKN)
D707
D706
IC701
R717
R714
R715
R716
R711
R713
R708
R709
R707
R712
R702
R703
R704
R705
R706
R710
R718
R730
R731
R732
R733
R734
R735
K012
K013
K022
K020
K004
K003
K001
C701
C702
C703
ZD701
D720
D721
D722
D723
STBY
OPERATE
REC
PG772
PG771
PG773
PG774
CN701
SW702
SECAM ↔ MESECAM
A1 ↔ NORM
SW701
Q701
Q702
Q703
RESET
S729
FIT

To DOOR SWITCH PG1774

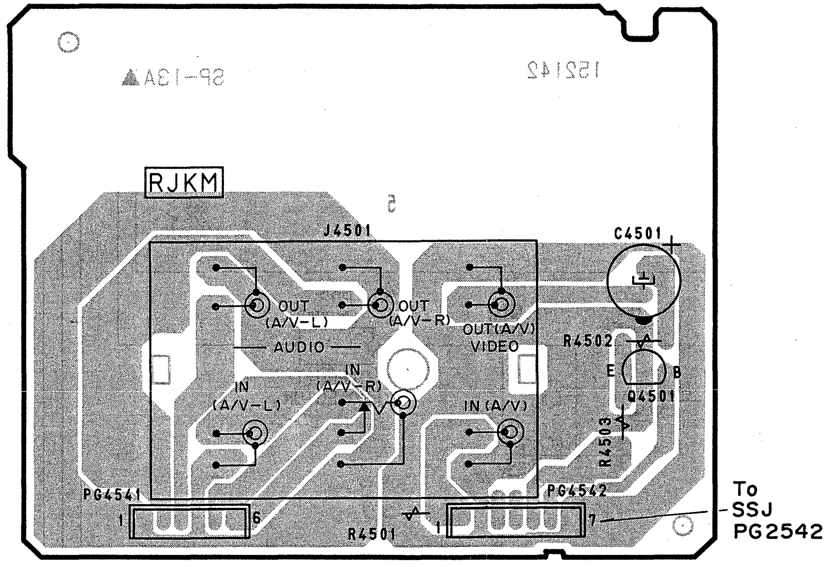
FIT (TIMER)

(PATTERN No.152142-5)


IR701
CN701
1
3
To FIT CN701

IR (IR RECEIVER)

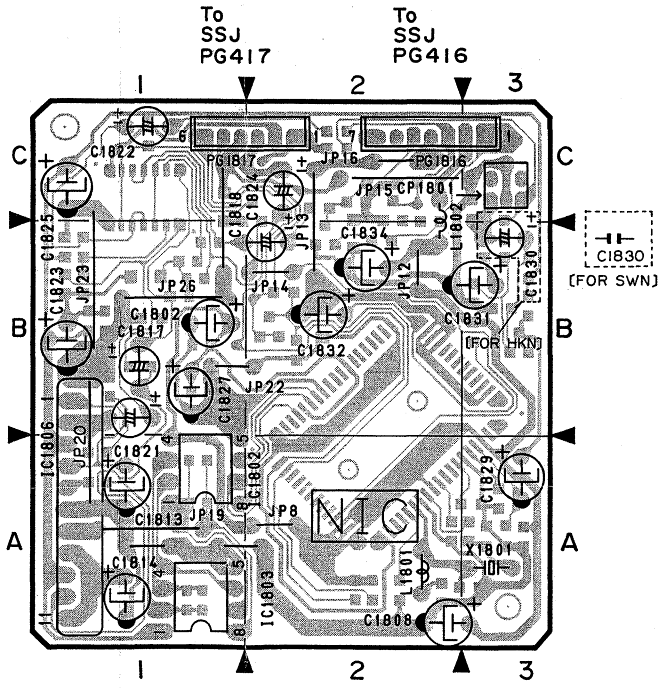
(PATTERN No.152142-5)


RJKM
J4501
OUT (A/V-L)
OUT (A/V-R)
OUT(A/V) VIDEO
AUDIO
IN (A/V-L)
IN (A/V-R)
IN (A/V)
C4501
R4502
R4503
R4501
Q4501
PG4541
PG4542
1
6
7
To SSJ PG2542

To SSJ PG2541

RJKM (REAR JACK)

(PATTERN No.152142-5)

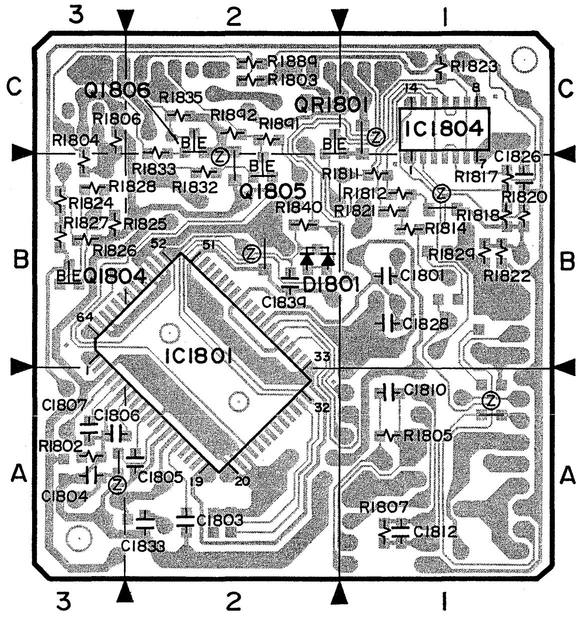

To SSJ PG417
To SSJ PG416
1
2
3
A
B
C
PG1817
PG1816
JP12
JP13
JP14
JP15
JP16
JP19
JP20
JP22
JP23
JP26
JP8
CP1801
L1802
L1801
C1802
C1803
C1806
C1808
C1813
C1814
C1817
C1818
C1821
C1822
C1823
C1824
C1825
C1827
C1829
C1830
C1831
C1832
C1834
IC1802
IC1803
IC1806
X1801
[FOR HKN]
C1830
(FOR SWN)
NIC

NIC (NICAM) — SIDE A —

(FOR HKN, SWN)

(PATTERN No.152142-5)

NOTE : MARK "Ⓩ" IS LEADLESS (CHIP) JUMPER.


3
2
1
A
B
C
Q1806
QR1801
Q1805
Q1804
IC1804
IC1801
D1801
R1802
R1803
R1804
R1805
R1806
R1807
R1811
R1812
R1814
R1817
R1818
R1820
R1821
R1822
R1823
R1824
R1825
R1826
R1827
R1828
R1829
R1832
R1833
R1835
R1840
R1889
R1891
R1892
C1801
C1803
C1804
C1805
C1806
C1807
C1810
C1812
C1826
C1828
C1833
C1839
64
52
51
33
32
20
19
14
8
7

NIC (NICAM) — SIDE B —

IDENTIFICATION OF PARTS LOCATION

FSW2 〔FRONT SW〕

Symbol No.	Parts Location
C	
C1701	6A
C1702	6A
IC	
IC1701	6A
LD	
LD1701	3A
LD1702	3A
LD1703	3A
LD1704	4A
LD1705	4A
LD1706	5A
PG	
PG1773	6A
Q	
Q1701	2A
Q1702	3A
Q1703	3A
Q1704	4A
Q1705	4A
Q1706	5A
R	
R1701	3A
R1702	3A
R1703	3A
R1704	4A
R1705	4A
R1706	5A
R1707	6A
R1708	6A

FIT 〔TIMER〕

Symbol No.	Parts Location
C	
C701	4B
C702	3B
C703	4A
CN	
CN701	7B
D	
D706	3B
D707	3B
D720	5A
D721	7B
D722	7B
D723	8B
DG	
DG701	3C
IC	
IC701	5B
PG	
PG771	7C
PG772	5C
PG773	1A
PG774	3A
Q	
Q701	3A
Q702	3A
Q703	4A
R	
R702	5B
R703	5B
R704	7B
R705	8B
R706	7B
R707	5B
R708	4B
R709	4B
R710	5A
R711	4B
R712	4B
R713	4B
R714	3B
R715	3B
R716	3B
R717	4B
R718	3B
R730	2A
R731	4A
R732	3B
R733	2B
R734	2B
R735	2B
S	
S729	7A
SW	
SW701	4A
SW702	3A
ZD	
ZD701	5B

NIC 〔NICAM〕
〔FOR HKN, SWN〕

Symbol No.	Parts Location
C	
C1801	B-1B
C1802	A-1B
C1803	B-2A
C1804	B-3A
C1805	B-2A
C1806	B-3A
C1807	B-3A
C1808	A-2A
C1810	B-1A
C1812	B-1A
C1813	A-1A
C1814	A-1A
C1817	A-1B
C1818	A-2B
C1821	A-1B
C1822	A-1C
C1823	A-1B
C1824	A-2C
C1825	A-1C
C1826	B-1B
C1827	A-1B
C1828	B-1B
C1829	A-3A
C1830	A-3B
C1831	A-3B
C1832	A-2B
C1833	B-2A
C1834	A-2B
C1839	B-2B
CP	
CP1801	A-3C
D	
D1801	B-2B
IC	
IC1801	B-2B
IC1802	A-1A
IC1803	A-1A
IC1804	B-1C
IC1806	A-1A
L	
L1801	A-2A
L1802	A-2B
PG	
PG1816	A-2C
PG1817	A-2C
Q	
Q1804	B-3B
Q1805	B-2B
Q1806	B-2C
QR	
QR1801	B-2C
R	
R1802	B-3A
R1803	B-2C
R1804	B-3B
R1805	B-1A
R1806	B-3C
R1807	B-1A
R1811	B-1B
R1812	B-1B
R1814	B-1B
R1817	B-1B
R1818	B-1B
R1820	B-1B
R1821	B-1B
R1822	B-1B
R1823	B-1C
R1824	B-3B
R1825	B-3B
R1826	B-3B
R1827	B-3B
R1828	B-3B
R1829	B-1B
R1832	B-2B
R1833	B-2B
R1835	B-2C
R1840	B-2B
R1889	B-2C
R1891	B-2C
R1892	B-2C
X	
X1801	A-3A

IDENTIFICATION OF PARTS LOCATION

HFA
〔Hi－Fi AUDIO〕

Symbol No.	Parts Location
C	
C401	A-2E
C402	B-2F
C403	B-2F
C404	A-1E
C405	B-1F
C406	B-1F
C407	A-2F
C409	B-2E
C410	B-2E
C411	B-2E
C412	B-1E
C413	B-1E
C414	A-2D
C415	A-2E
C416	A-2E
C417	A-1D
C418	A-1E
C420	A-2E
C421	A-1F
C422	B-2D
C501	A-1C
C502	B-1C
C503L	A-1B
C503R	A-2F
C504L	A-1B
C504R	A-2F
C508L	A-1A
C508R	A-2D
C509L	B-1A
C509R	B-2D
C510L	A-1B
C510R	A-2D
C511L	A-2B
C511R	A-2D
C512L	A-1B
C512R	A-2E
C513	A-2C
C514L	B-2B
C514R	B-2D
C515L	B-2B
C515R	B-2D
C516L	A-2C
C516R	A-2D
C517L	B-2B
C517R	B-2C
C518	B-1A
C519	B-2C
C520	B-2C
C521	A-2C
C522	B-2A
C523	B-2C
C524	B-2C
C530	A-1D
C531	A-1D
C532	B-1D
C534	A-1B
C536	A-2D
C539	A-2F
C543	B-2A
C548L	B-2A
C550L	A-1C
C550R	A-1D
C552	A-1D
D	
D501	B-1B
IC	
IC401	A-2E
IC501	B-2D
L	
L401	A-1F
L402	A-2E
L501	A-1C
L502L	A-2B
L503	A-2A
L504	A-2A
PG	
PG505	A-1E
PG511	A-1A
PG512	A-1E
PG513	A-1F
Q	
Q401	A-1F
Q402	A-2F
Q403	B-1F
Q406	B-2E
Q407	B-2E
Q408	B-1E
Q409	B-1E
Q410	B-1F
Q411	B-1F
Q501L	B-1D
Q501R	B-1D
Q502	B-1D
Q505	B-1A
Q510L	B-1C
Q510R	B-1B
Q511	B-1B
Q512	B-2A
R	
R401	B-1E
R402	B-2F
R404	B-2E
R405	B-2E
R406	B-2F
R407	B-1F
R408	B-1E
R409	B-1E
R410	B-1E
R412	B-2D
R414	B-2E
R415	B-2E
R416	B-2E
R417	B-1E
R419	B-1F
R420	B-1F
R422	B-2E
R424	B-1F
R425	B-1F
R437	B-2F
R438	B-1D
R439	B-2F
R440	B-1F
R441	B-1E
R501L	B-1C
R501R	B-1D
R502L	B-1C
R502R	B-1D
R503L	B-1C
R503R	B-1D
R504	B-1D
R505L	B-2B
R505R	B-2D
R506L	B-1B
R506R	B-2D
R507L	B-2A
R507R	B-2D
R508L	B-1B
R508R	B-2D
R509L	B-1C
R509R	B-2D
R511	B-1A
R512	B-1D
R513	B-1A
R514L	B-1C
R514R	B-1B
R515L	B-2B
R515R	B-2C
R516	B-2C
R518	B-2D
R523	B-1D
R524	B-1E
R525	B-1D
R530L	B-1B
R530R	B-2F
R531L	B-1B
R531R	B-2F
R532L	B-1B
R532R	B-2F
R533L	B-1B
R533R	B-2F
R537	B-1A
R538	B-1A
R539	B-2F
R540	B-2F
R547	B-2C
R551	B-1A
R556	B-2A
R558	B-2A
R560	A-1B
RT	
RT401	A-1F
RT501L	A-1C
RT501R	A-1C
RT502L	A-1C
RT502R	A-1B
T	
T401	A-1F

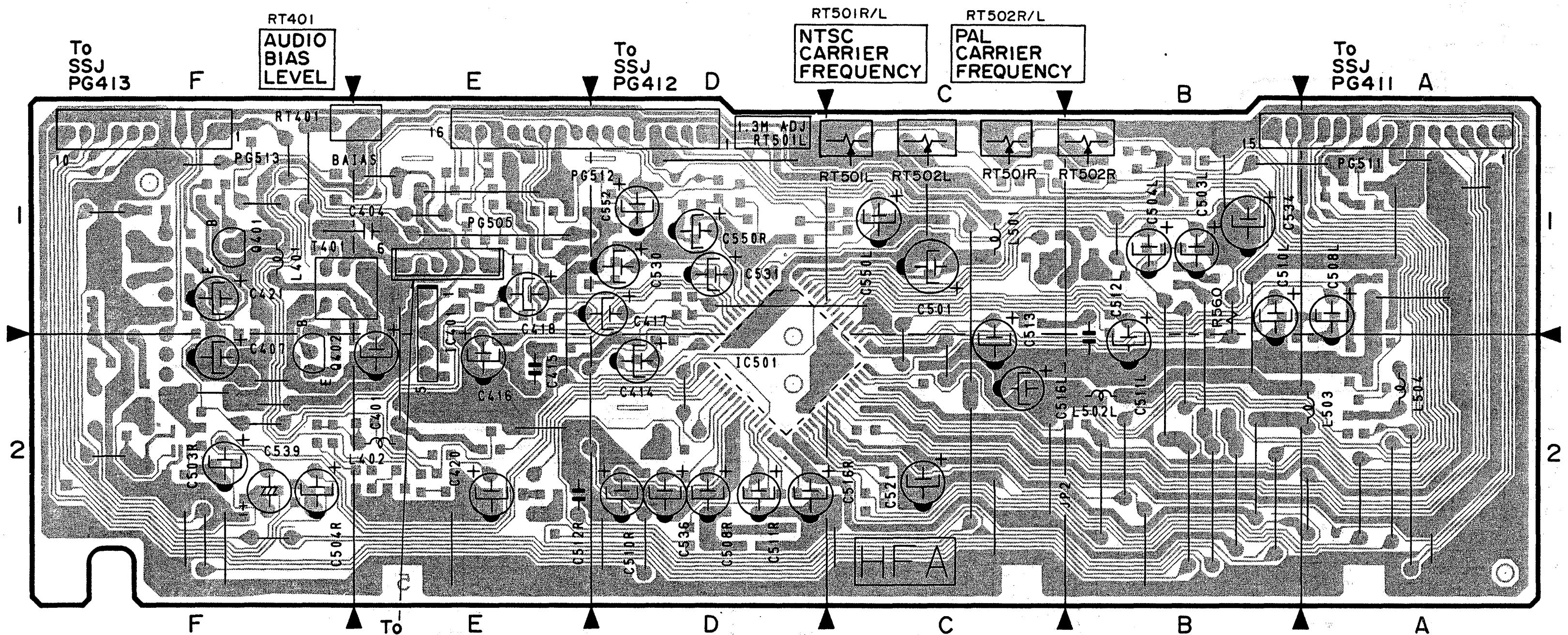
SKW
〔SKEW CORRE〕

Symbol No.	Parts Location
C	
C1206	A-1B
C1208	A-1B
C1209	A-1B
C1210	B-1B
C1212	B-1B
C1213	B-1B
C1214	B-1B
C1215	B-1A
C1216	A-2A
C1217	B-1A
C1218	B-2B
C1219	A-2B
C1220	B-2A
C1221	A-2B
C1222	B-1B
C1224	A-1B
IC	
IC1201	A-1B
IC1202	B-1B
L	
L1201	A-1B
L1202	A-1A
L1204	A-1A
L1205	A-1A
L1207	A-1B
PG	
PG1225	A-2A
Q	
Q1202	B-1B
Q1203	B-1A
Q1204	B-1A
Q1205	B-2B
Q1206	B-1A
R	
R1207	B-1B
R1208	B-1A
R1209	B-2A
R1210	B-1A
R1211	B-1A
R1212	B-1A
R1213	B-1A
R1215	B-2B
R1216	B-1B
R1217	B-1A
R1218	B-1A
R1220	B-1B
R1221	B-1B
RT	
RT1201	A-2A
TH	
TH1201	A-2A

PRE
〔PRE／REC AMP〕

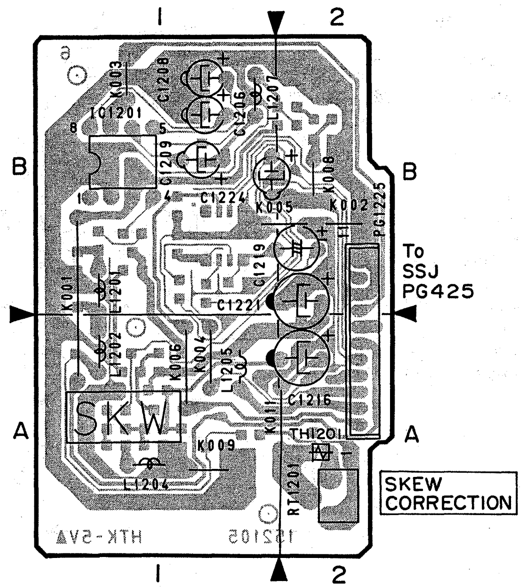
Symbol No.	Parts Location
C	
C1	1E
C2	1F
C4	1E
C5	1D
C6	1D
C7	1E
C8	1D
C9	1E
C10	1E
C11	1C
C12	1F
C13	1F
C14	1F
C15	1F
C16	1F
C17	2E
C18	2E
C19	2E
C20	2E
C21	2F
C22	2F
C23	2F
C24	2F
C25	2F
C26	2F
C27	2B
C28	1B
C29	1B
C30	2B
C31	2B
C32	1E
C33	2E
C34	2D
C35	2D
C36	2D
C37	2D
C38	2D
C39	2D
C40	1D
C41	1D
C42	2C
C43	2E
C44	1D
C45	1C
C46	1D
C47	2C
C48	2C
C49	2C
C50	2C
C51	2C
C52	2C
C53	2C
C59	1E
C60	2A
C61	2B
D	
D1	1F
D2	1E
IC	
IC1	1F
IC2	2D
IC3	2B
L	
L1	1F
L2	1D
L3	1E
L4	1C
L5	1F
L6	1F
L7	2E
L8	2F
L9	1B
L10	2B
L11	1B
L12	2C
L15	2B
L16	2B
PG	
PG1	2F
PG3	2A
PG4	1A
Q	
Q1	1C
Q3	1D
Q4	2G
Q5	1G
Q6	1E
Q7	2A
Q13	2D
R	
R1	1E
R2	1C
R3	1E
R4	1D
R5	1D
R6	1B
R7	1E
R9	1E
R10	2E
R11	2E
R12	1F
R13	1F
R14	2F
R15	2F
R16	2F
R17	2F
R18	2F
R19	2F
R20	2G
R21	1G
R22	1G
R23	1G
R24	2B
R25	2B
R26	2B
R27	1C
R28	2A
R29	1B
R31	1F
R32	2E
R33	2E
R34	2D
R35	2E
R36	2D
R37	2D
R38	2A
R39	1D
R40	1E
R41	1D
R42	1D
R43	1D
R44	1D
R45	2C
R46	2C
R47	2C
R48	2C
R49	2C
R50	2C
R51	2C
R52	2C
R53	2C
R62	2A
R63	2B
R64	2C

HFA. SKW. PRE CIRCUIT BOARDS

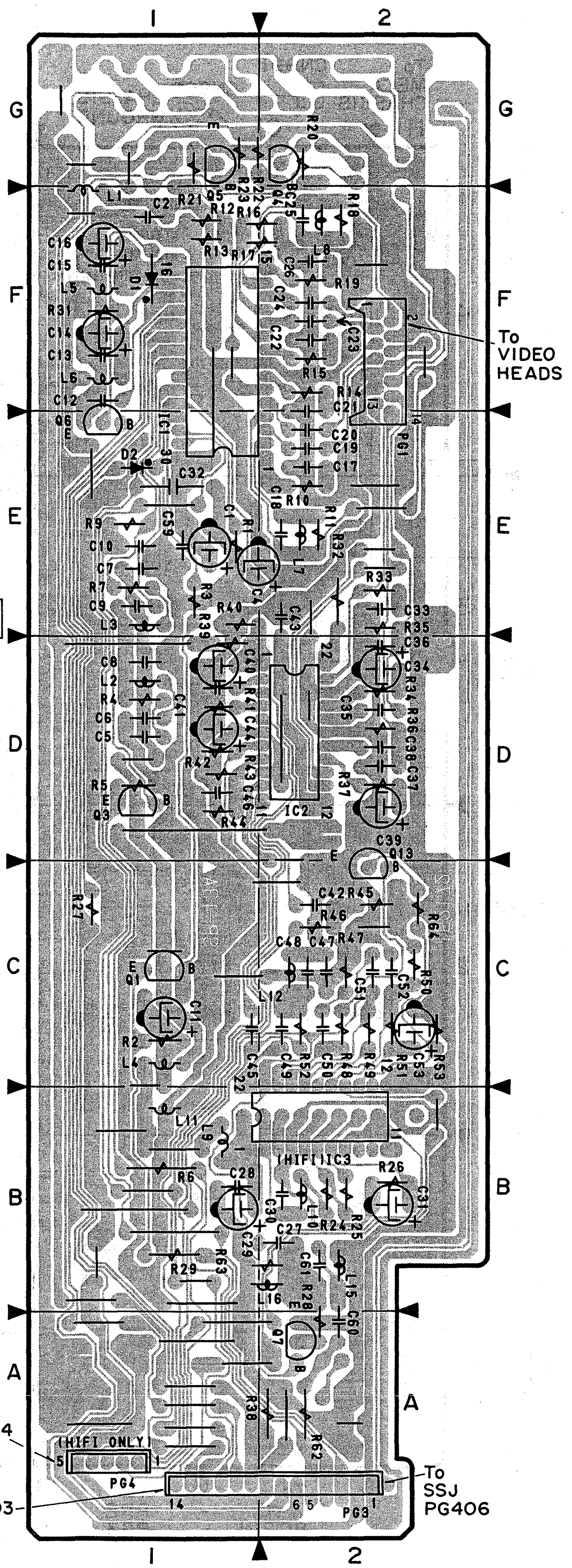

To SSJ PG413
RT401 AUDIO BIAS LEVEL
To SSJ PG412
RT501R/L NTSC CARRIER FREQUENCY
RT502R/L PAL CARRIER FREQUENCY
To SSJ PG411
To AUDIO/CONTROL HEAD
IC501
HFA

HFA (Hi-Fi AUDIO) — SIDE·A —
(PATTERN No. 152142-5)

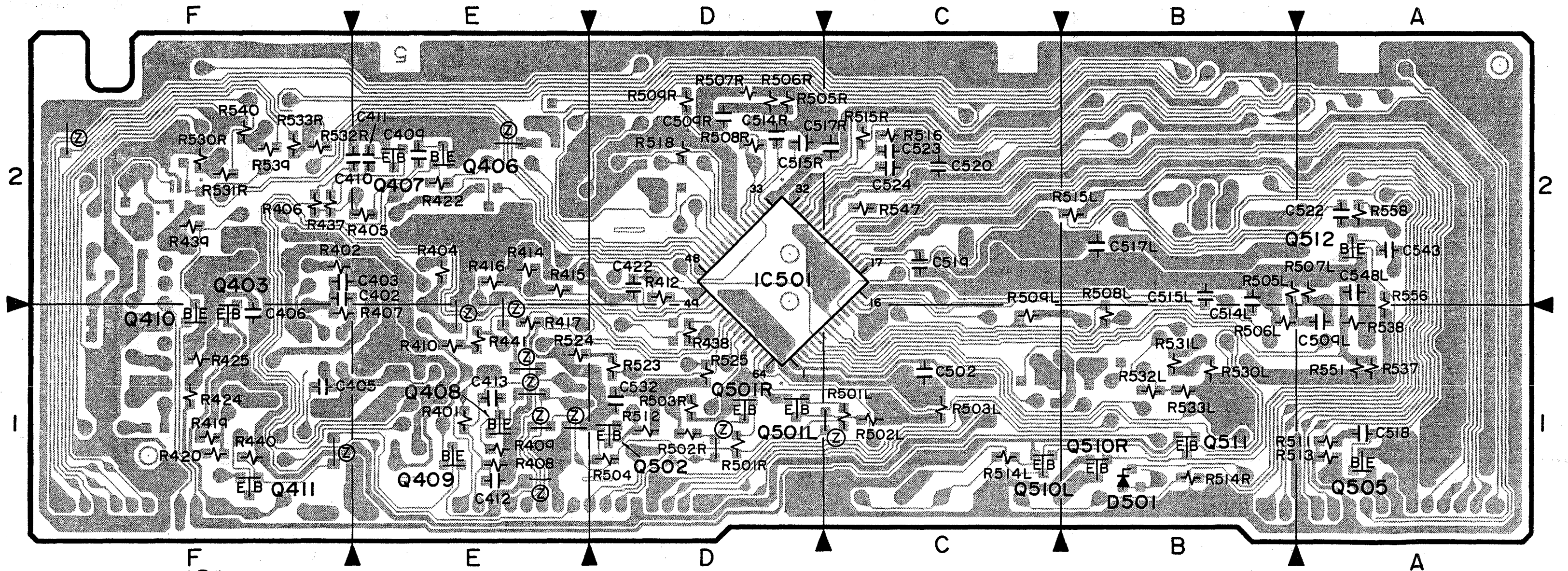
✱ R560 1K (1%)
FOR (JU)
SERIAL NO. 00001-
01100 ONLY


To SSJ PG425
SKEW CORRECTION
SKW
IC1201

SKW (SKEW CORRE.)
— SIDE·A —
(PATTERN No. 152105-6)

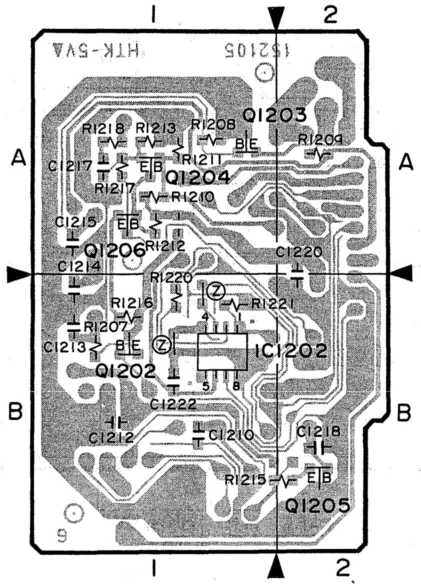

To VIDEO HEADS
IC1
IC2
(HIFI) IC3
To SSJ PG404
To SSJ PG403
To SSJ PG406
(HIFI ONLY)
PG4
PG3

PRE (PRE / REC AMP)
(PATTERN No. 152172-3)



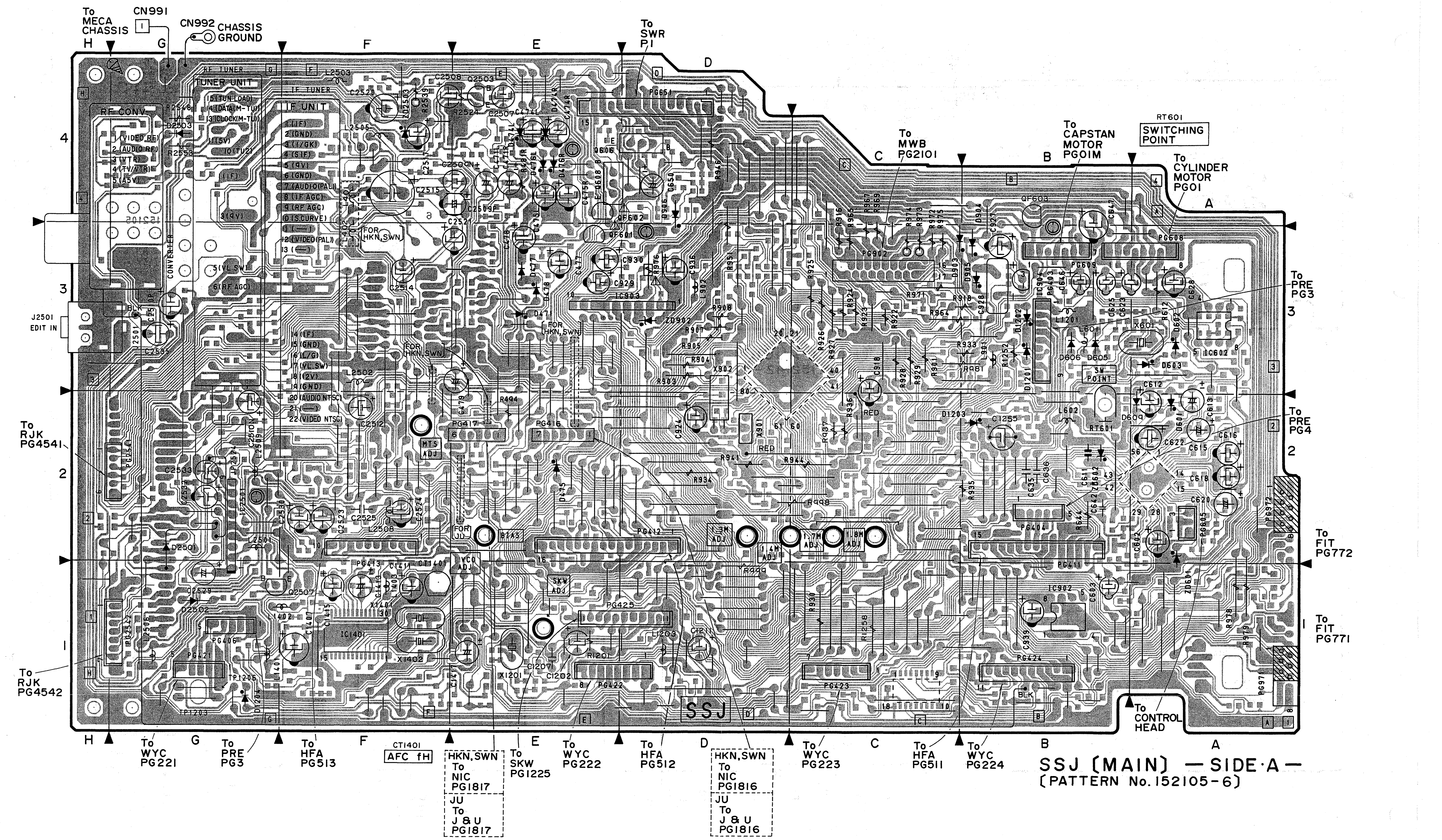
NOTE : MARK "Ⓩ" IS LEADLESS (CHIP) JUMPER.

HFA (Hi-Fi AUDIO) — SIDE·B —



SKW (SKEW CORRE.)
— SIDE·B —

SSJ CIRCUIT BOARD -SIDE·A-


To MECA CHASSIS
CN991
CN992 CHASSIS GROUND
To SWR P1
To MWB PG2101
To CAPSTAN MOTOR PG01M
RT601 SWITCHING POINT
To CYLINDER MOTOR PG01
To PRE PG3
To PRE PG4
To FIT PG772
To FIT PG771
To RJK PG4541
To RJK PG4542
J2501 EDIT IN
RF CONV.
1 (VIDEO RF)
2 (AUDIO RF)
3 (VTR)
4 (TV/VTR)
5 (A5V)
RF TUNER
TUNER UNIT
15 (TUN-LOAD)
14 (DATA(M-TU))
13 (CLOCK(M-TU))
11 (5V)
10 (TU2)
1 (IF)
3 (9V)
5 (VL SW)
6 (RF AGC)
CONVERTER
IF TUNER
IF UNIT
1 (IF)
2 (GND)
3 (GND)
4 (L/GK)
5 (SIF)
5 (9V)
6 (GND)
7 (AUDIO(PAL))
8 (IF AGC)
9 (RF AGC)
10 (S.CURVE)
11 ( )
12 (VIDEO(PAL))
13 ( )
14 (IF)
15 (GND)
16 (L/G)
17 (VL SW)
18 (12V)
19 (GND)
20 (AUDIO NTSC)
21 ( )
22 (VIDEO NTSC)
FOR HKN, SWN
FOR JU
MTS ADJ
VCO ADJ
SKW ADJ
BIAS
1.3M ADJ
1.4M ADJ
1.7M ADJ
1.8M ADJ
SW POINT
RED
BLK
SSJ
To CONTROL HEAD
To WYC PG221
To PRE PG3
To HFA PG513
CT1401 AFC fH
HKN, SWN To NIC PG1817
JU To J & U PG1817
To SKW PG1225
To WYC PG222
To HFA PG512
HKN, SWN To NIC PG1816
JU To J & U PG1816
To WYC PG223
To HFA PG511
To WYC PG224
H
G
F
E
D
C
B
A
1
2
3
4

SSJ (MAIN) —SIDE·A—
(PATTERN No.152105-6)

IDENTIFICATION OF PARTS LOCATION

SSJ (MAIN)

Symbol No.	Parts Location
C	
C471L	A-4E
C471R	A-4E
C474L	A-4E
C474R	A-4E
C475L	A-4E
C475R	A-4E
C477	A-3E
C478	A-3E
C479	A-3E
C483L	B-3E
C483R	B-3F
C484	B-4F
C485	B-3F
C486	B-4F
C491	B-3B
C601	B-2A
C602	A-2A
C603	A-1B
C604	B-2B
C606	B-2B
C607	B-2B
C608	B-2B
C609	B-2B
C611	A-2B
C612	A-2A
C613	A-2A
C614	B-2A
C615	A-2A
C616	A-2A
C617	B-3B
C618	A-2A
C619	B-2A
C620	A-2A
C621	B-2A
C622	A-2A
C623	A-3B
C624	B-3B
C625	A-3B
C626	B-3A
C627	B-3A
C628	A-3A
C630	B-3A
C631	B-3A
C632	B-3A
C633	B-3A
C634	B-3B
C635	A-2B
C636	A-2B
C640	B-3A
C641	B-2B
C642	A-2B
C646	A-3B
C647	A-4B
C650	A-4D
C901	B-3D
C903	B-3D
C904	B-3D
C905	B-3D
C906	B-3D
C908	B-3D
C912	B-3D
C913	B-3C
C917	B-3B
C918	A-3C
C919	B-2C
C922	B-2D
C923	B-2D
C924	A-2D
C925	B-2D
C926	B-3B
C927	A-3B
C928	A-3B
C929	A-3E
C930	A-3E
C931	B-4D
C932	B-3C
C933	B-3C
C934	B-3D
C935	B-3D
C936	A-3D
C937	B-3D
C939	A-1B
C940	B-1B
C941	B-1C
C942	B-2C
C944	B-4C
C946	B-2C
C950	B-3D
C951	B-2D
C1201	B-1E
C1202	A-1E
C1203	B-1E
C1204	B-1E
C1205	B-1E
C1207	A-1E
C1211	A-1D
C1251	B-3B
C1253	B-2B
C1255	A-2B
C1401	B-1F
C1402	B-1F
C1403	B-1F
C1404	B-1F
C1406	B-1F
C1407	A-1F
C1409	B-1F
C1410	B-1F
C1411	A-1F
C1412	B-1F
C1413	A-1F
C1414	B-2F
C1415	A-1F
C1416	B-1F
C1417	A-1E
C1418	B-1F
C1419	B-1F
C1420	B-1F
C1421	B-1F
C1423	B-1F
C2507	A-4E
C2508	A-4F
C2509N	A-4E
C2509P	A-4E
C2510N	A-2G
C2510P	A-3G
C2511	B-3F
C2512	A-2F
C2514	A-3F
C2515	A-4F
C2516	B-4G
C2517	A-4F
C2518	B-4F
C2519	B-4G
C2520	A-4F
C2521	A-3E
C2522	B-2G
C2523	A-2F
C2524	A-2F
C2525	A-2F
C2529	A-1G
C2530	A-2F
C2531	B-2G
C2532	A-2G
C2533	A-2G
C2534	B-4F
C2535	A-3G
C2536	B-2F
C2539	B-2G
CT	
CT1401	A-1F
D	
D471	A-3E
D474L	A-4E
D474R	A-4E
D475	A-2E
D476L	A-4E
D476R	A-4E
D477	A-3E
D478	A-3E
D479	B-2E
D601	A-2A
D602	A-3A
D603	A-3A
D605	A-3B
D606	A-3B
D609	A-2A
D610	B-1B
D903	A-3C
D904	A-3B
D905	A-3B
D906	A-4D
D908	B-3G
D1201	A-3B
D1202	A-3B
D1203	A-2B
D1204	A-1G
D1205	B-1E
D1206	B-2B
D1403	B-1F
D2501	A-2G
D2502	A-1G
D2503	A-4G
IC	
IC601	B-2A
IC602	A-3A
IC901	B-3D
IC902	A-1B
IC903	A-3D
IC904	A-3B
IC905	B-1C
IC1401	B-1F
IC2501	A-2G
IC2503	B-4F
J	
J2501	A-3H
L	
L401	A-4F
L402	A-3F
L601	A-3B
L602	A-2B
L901	A-3B
L902	A-3D
L1201	A-3B
L1203	A-1D
L1401	A-1G
L1402	A-1F
L1403	A-1F
L2501	A-2G
L2502	A-3F
L2503	A-4F
L2505	A-4F
L2506	A-1G
L2508	A-2F
L2509	A-2G
PG	
PG403	A-3B
PG404	A-2B
PG406	A-1G
PG411	A-2B
PG412	A-2E
PG413	A-2F
PG416	A-2E
PG417	A-2E
PG421	A-1G
PG422	A-1E
PG423	A-1C
PG424	A-1B
PG425	A-1E
PG605	A-2A
PG608	A-3A
PG609	A-3B
PG651	A-4D
PG902	A-3C
PG971	A-1A
PG972	A-2A
PG2541	A-2G
PG2542	A-1G
Q	
Q410	B-2E
Q412	B-2E
Q471	B-3E
Q472	B-3E
Q475L	B-4E
Q475R	B-4E
Q476	B-2E
Q602	B-3B
Q603	B-3B
Q605	B-3B
Q606	A-4D
Q607	B-4D
Q608	A-4E
Q609	B-4E
Q902	B-3D
Q903	B-4D
Q904	B-4D
Q905	B-3D
Q906	B-4D
Q907	B-1B
Q908	B-2D
Q909	B-2D
Q1201	B-1E
Q1251	B-1E
Q1252	B-1F
Q1253	B-2B
Q1254	B-2B
Q1401	B-1F
Q1402	B-1F
Q1403	B-1F
Q2501	B-3G
Q2502	B-2F
Q2503	A-4E
Q2504	B-4G
Q2505	B-4F
Q2506	B-4F
Q2507	A-1G
Q2550	B-4H
QF	
QF601	A-3E
QF602	A-4E
QF603	A-4B
R	
R435	B-1E
R438	B-2E
R471L	B-4E
R471R	B-4E
R480	B-3E
R481L	B-4E
R481R	A-4E
R482L	B-4E
R482R	B-4E
R486L	B-4E
R486R	B-4E
R487L	B-4E
R487R	B-4E
R488L	B-4E
R488R	B-4E
R490	B-3E
R491	B-3E
R492	B-3E
R493	B-4E
R494	A-2E
R495	B-4F
R601	B-2A
R602	B-2A
R603	B-2B
R604	B-2A
R605	B-1A
R606	B-2A
R607	B-2A
R608	B-2B
R612	A-3A
R613	B-2A
R614	B-2A
R615	B-2A
R616	B-2A
R617	B-2A
R618	B-2A
R619	B-2A
R620	B-2A
R621	B-2A
R622	B-2A
R623	B-2A
R624	B-2A
R625	B-2A
R626	B-2A
R627	B-2A
R628	B-2A
R629	B-3A
R630	B-3A
R631	B-3A
R632	B-3A
R633	B-3A
R634	B-3B
R636	B-3B
R637	B-3A
R638	B-3A
R639	B-3A
R640	B-3A
R641	B-3A
R642	B-3A
R643	B-3A
R644	A-2B
R650	B-3A
R651	B-3A
R652	B-3B
R653	B-3B
R654	B-3B
R655	B-3B
R656	B-3B
R657	B-3B
R658	B-3B
R660	B-2B
R661	B-2B
R662	B-3B
R663	B-3B
R664	B-3B
R665	B-3B
R668	B-2B
R669	B-2B
R670	B-4D
R671	B-4D
R672	B-4E
R673	B-4E
R901	A-3C
R902	B-2D
R903	A-3D
R904	A-3D
R905	A-3D
R906	B-3D
R907	A-3D
R908	A-3D
R909	B-3D
R910	B-3D
R911	B-3D
R912	B-3D
R913	B-3D
R916	A-3C
R917	B-3C
R918	A-3B
R919	B-3C
R920	B-3C
R921	B-3B
R922	A-3C
R923	A-3C
R924	A-3C
R925	A-3C
R926	A-3C
R927	A-3C
R928	A-3C
R929	A-3C
R930	A-1C
R931	B-3C
R933	A-3B
R934	A-2D
R935	A-2B
R936	A-2C
R937	A-2C
R938	B-2C
R939	B-2C
R940	B-2D
R941	A-2D
R942	B-1C
R943	B-2D
R944	A-2C
R945	B-2D
R946	A-4D
R947	B-4D
R951	A-3D
R952	B-3B
R953	B-3B
R954	B-3B
R955	B-3D
R956	B-3D
R957	B-3E
R958	B-3E
R959	B-4D
R960	B-4D
R961	B-4D
R963	B-4D
R964	A-3C
R965	A-3C
R966	B-3C
R967	A-3C
R968	B-3C
R969	A-3C
R970	B-3C
R971	A-3C
R972	A-3C
R973	A-3C
R974	A-3C
R975	A-3C
R976	A-3D
R977	B-1B
R978	A-1A
R979	A-1A
R980	B-2D
R981	A-3B
R982	B-1B
R983	B-1B
R984	B-1B
R985	B-1B
R986	B-1C
R987	B-1C
R988	B-1C
R989	B-1B
R990	B-2C
R991	B-2C
R992	B-2D
R993	B-3D
R994	B-3D
R995	B-3D
R996	B-3B
R998	A-2C
R999	A-1D
R1201	A-1E
R1202	B-1E
R1203	B-1E
R1205	B-1E
R1206	B-1E
R1251	B-3B
R1252	A-3B
R1253	B-2B
R1254	B-2B
R1255	B-1F
R1256	B-1F
R1258	A-1C
R1401	B-1G
R1404	B-1F
R1405	B-1F
R1406	B-1F
R1408	B-1F
R1409	B-1F
R1411	B-1F
R1412	B-1F
R1413	B-1F
R1499	B-1F
R2502L	B-3G
R2502R	B-3G
R2521	B-4E
R2522	B-4E
R2523	B-4F
R2524	A-4E
R2525	B-3G
R2526	B-2F
R2527	B-2F
R2528	B-2F
R2531	B-2G
R2532	B-3F
R2533	B-3F
R2539	A-4F
R2540N	B-3G
R2540P	B-3G
R2542	B-2F
R2544	B-4F
R2545	B-4F
R2548	A-4G
R2550	B-4G
R2553	A-4G
RT	
RT601	A-2B
TP	
TP3	B-2B
TP4	B-2B
TP5	B-2F
TP6	B-2F
TP7	B-1D
TP8	B-4E
TP9	B-2F
TP10	B-2E
TP11	B-2E
TP12	B-2E
TP601	B-3B
TP602	B-2B
TP1203	A-1G
TP1204	B-1B
TP1206	A-1G
TP1401	B-1F
X	
X601	A-3A
X901	A-2D
X902	A-2D
X1201	A-1E
X1401	A-1F
X1402	A-1F
ZD	
ZD601	A-2A
ZD602	A-2B
ZD902	A-3D
ZD2503	A-4F

IDENTIFICATION OF PARTS LOCATION

SSJ (MAIN)

Symbol No.	Parts Location
C	
C471L	A-4E
C471R	A-4E
C474L	A-4E
C474R	A-4E
C475L	A-4E
C475R	A-4E
C477	A-3E
C478	A-3E
C479	A-3E
C483L	B-3E
C483R	B-3F
C484	B-4F
C485	B-3F
C486	B-4F
C491	B-3B
C601	B-2A
C602	A-2A
C603	A-1B
C604	B-2B
C606	B-2B
C607	B-2B
C608	B-2B
C609	B-2B
C611	A-2B
C612	A-2A
C613	A-2A
C614	B-2A
C615	A-2A
C616	A-2A
C617	B-3B
C618	A-2A
C619	B-2A
C620	A-2A
C621	B-2A
C622	A-2A
C623	A-3B
C624	B-3B
C625	A-3B
C626	B-3A
C627	B-3A
C628	A-3A
C630	B-3A
C631	B-3A
C632	B-3A
C633	B-3A
C634	B-3B
C635	A-2B
C636	A-2B
C640	B-3A
C641	B-2B
C642	A-2B
C646	A-3B
C647	A-4B
C650	A-4D

Symbol No.	Parts Location
C901	B-3D
C903	B-3D
C904	B-3D
C905	B-3D
C906	B-3D
C908	B-3D
C912	B-3D
C913	B-3C
C917	B-3B
C918	A-3C
C919	B-2C
C922	B-2D
C923	B-2D
C924	A-2D
C925	B-2D
C926	B-3B
C927	A-3B
C928	A-3B
C929	A-3E
C930	A-3E
C931	B-4D
C932	B-3C
C933	B-3C
C934	B-3D
C935	B-3D
C936	A-3D
C937	B-3D
C939	A-1B
C940	B-1B
C941	B-1C
C942	B-2C
C944	B-4C
C946	B-2C
C950	B-3D
C951	B-2D
C1201	B-1E
C1202	A-1E
C1203	B-1E
C1204	B-1E
C1205	B-1E
C1207	A-1E
C1211	A-1D
C1251	B-3B
C1253	B-2B
C1255	A-2B
C1401	B-1F
C1402	B-1F
C1403	B-1F
C1404	B-1F
C1406	B-1F
C1407	A-1F
C1409	B-1F
C1410	B-1F
C1411	A-1F
C1412	B-1F

Symbol No.	Parts Location
C1413	A-1F
C1414	B-2F
C1415	A-1F
C1416	B-1F
C1417	A-1E
C1418	B-1F
C1419	B-1F
C1420	B-1F
C1421	B-1F
C1423	B-1F
C2507	A-4E
C2508	A-4F
C2509N	A-4E
C2509P	A-4E
C2510N	A-2G
C2510P	A-3G
C2511	B-3F
C2512	A-2F
C2514	A-3F
C2515	A-4F
C2516	B-4G
C2517	A-4F
C2518	B-4F
C2519	B-4G
C2520	A-4F
C2521	A-3E
C2522	B-2G
C2523	A-2F
C2524	A-2F
C2525	A-2F
C2529	A-1G
C2530	A-2F
C2531	B-2G
C2532	A-2G
C2533	A-2G
C2534	B-4F
C2535	A-3G
C2536	B-2F
C2539	B-2G
CT	
CT1401	A-1F
D	
D471	A-3E
D474L	A-4E
D474R	A-4E
D475	A-2E
D476L	A-4E
D476R	A-4E
D477	A-3E
D478	A-3E
D479	B-2E
D601	A-2A
D602	A-3A
D603	A-3A
D605	A-3B

Symbol No.	Parts Location
D606	A-3B
D609	A-2A
D610	B-1B
D903	A-3C
D904	A-3B
D905	A-3B
D906	A-4D
D908	B-3G
D1201	A-3B
D1202	A-3B
D1203	A-2B
D1204	A-1G
D1205	B-1E
D1206	B-2B
D1403	B-1F
D2501	A-2G
D2502	A-1G
D2503	A-4G
IC	
IC601	B-2A
IC602	A-3A
IC901	B-3D
IC902	A-1B
IC903	A-3D
IC904	A-3B
IC905	B-1C
IC1401	B-1F
IC2501	A-2G
IC2503	B-4F
J	
J2501	A-3H
L	
L401	A-4F
L402	A-3F
L601	A-3B
L602	A-2B
L901	A-3B
L902	A-3D
L1201	A-3B
L1203	A-1D
L1401	A-1G
L1402	A-1F
L1403	A-1F
L2501	A-2G
L2502	A-3F
L2503	A-4F
L2505	A-4F
L2506	A-1G
L2508	A-2F
L2509	A-2G
PG	
PG403	A-3B
PG404	A-2B
PG406	A-1G
PG411	A-2B

Symbol No.	Parts Location
PG412	A-2E
PG413	A-2F
PG416	A-2E
PG417	A-2E
PG421	A-1G
PG422	A-1E
PG423	A-1C
PG424	A-1B
PG425	A-1E
PG605	A-2A
PG608	A-3A
PG609	A-3B
PG651	A-4D
PG902	A-3C
PG971	A-1A
PG972	A-2A
PG2541	A-2G
PG2542	A-1G
Q	
Q410	B-2E
Q412	B-2E
Q471	B-3E
Q472	B-3E
Q475L	B-4E
Q475R	B-4E
Q476	B-2E
Q602	B-3B
Q603	B-3B
Q605	B-3B
Q606	A-4D
Q607	B-4D
Q608	A-4E
Q609	B-4E
Q902	B-3D
Q903	B-4D
Q904	B-4D
Q905	B-3D
Q906	B-4D
Q907	B-1B
Q908	B-2D
Q909	B-2D
Q1201	B-1E
Q1251	B-1E
Q1252	B-1F
Q1253	B-2B
Q1254	B-2B
Q1401	B-1F
Q1402	B-1F
Q1403	B-1F
Q2501	B-3G
Q2502	B-2F
Q2503	A-4E
Q2504	B-4G
Q2505	B-4F
Q2506	B-4F

Symbol No.	Parts Location
Q2507	A-1G
Q2550	B-4H
QF	
QF601	A-3E
QF602	A-4E
QF603	A-4B
R	
R435	B-1E
R438	B-2E
R471L	B-4E
R471R	B-4E
R480	B-3E
R481L	B-4E
R481R	A-4E
R482L	B-4E
R482R	B-4E
R486L	B-4E
R486R	B-4E
R487L	B-4E
R487R	B-4E
R488L	B-4E
R488R	B-4E
R490	B-3E
R491	B-3E
R492	B-3E
R493	B-4E
R494	A-2E
R495	B-4F
R601	B-2A
R602	B-2A
R603	B-2B
R604	B-2A
R605	B-1A
R606	B-2A
R607	B-2A
R608	B-2B
R612	A-3A
R613	B-2A
R614	B-2A
R615	B-2A
R616	B-2A
R617	B-2A
R618	B-2A
R619	B-2A
R620	B-2A
R621	B-2A
R622	B-2A
R623	B-2A
R624	B-2A
R625	B-2A
R626	B-2A
R627	B-2A
R628	B-2A
R629	B-3A
R630	B-3A

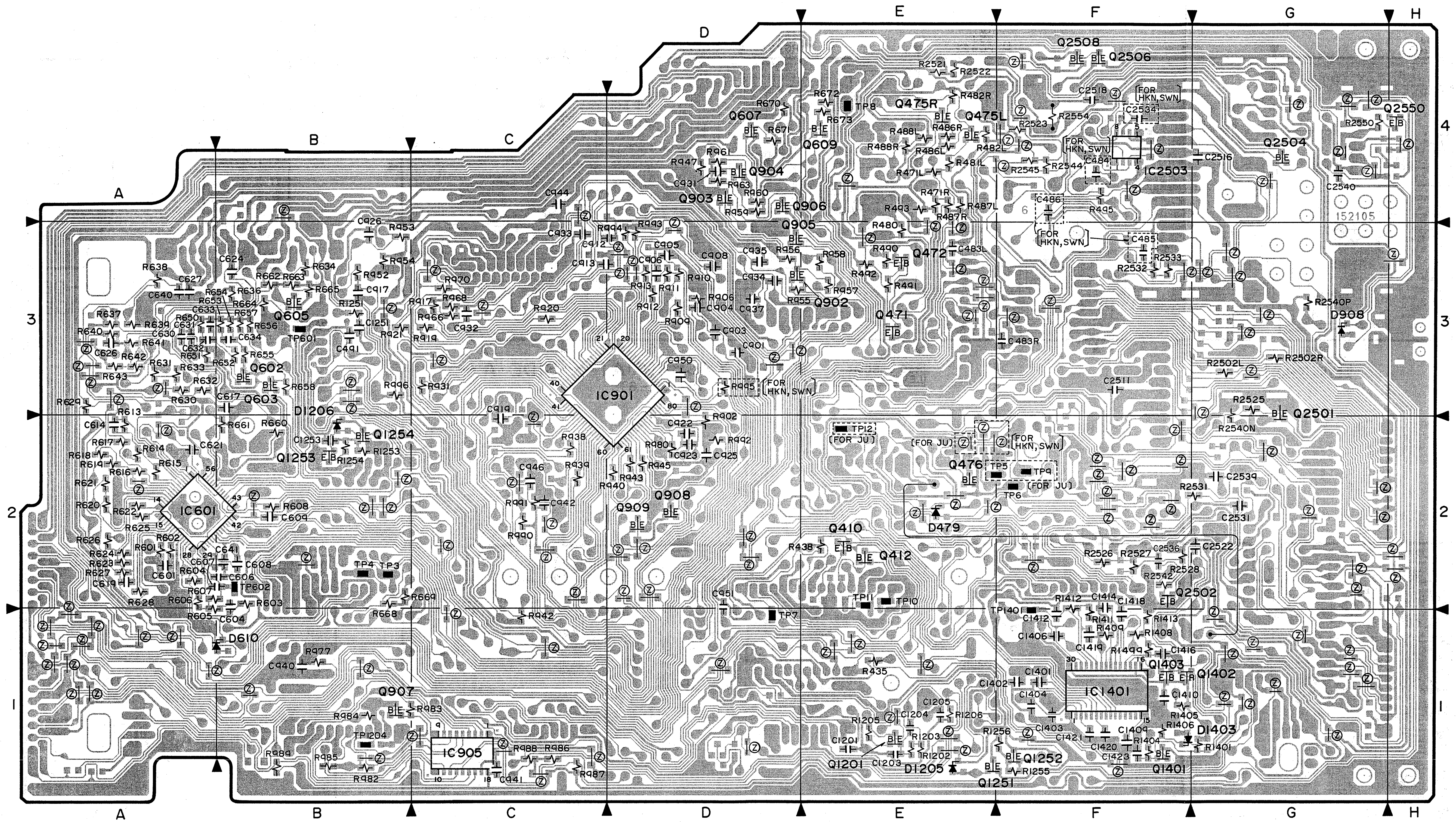
Symbol No.	Parts Location
R631	B-3A
R632	B-3A
R633	B-3A
R634	B-3B
R636	B-3B
R637	B-3A
R638	B-3A
R639	B-3A
R640	B-3A
R641	B-3A
R642	B-3A
R643	B-3A
R644	A-2B
R650	B-3A
R651	B-3A
R652	B-3B
R653	B-3B
R654	B-3B
R655	B-3B
R656	B-3B
R657	B-3B
R658	B-3B
R660	B-2B
R661	B-2B
R662	B-3B
R663	B-3B
R664	B-3B
R665	B-3B
R668	B-2B
R669	B-2B
R670	B-4D
R671	B-4D
R672	B-4E
R673	B-4E
R901	A-3C
R902	B-2D
R903	A-3D
R904	A-3D
R905	A-3D
R906	B-3D
R907	A-3D
R908	A-3D
R909	B-3D
R910	B-3D
R911	B-3D
R912	B-3D
R913	B-3D
R916	A-3C
R917	B-3C
R918	A-3B
R919	B-3C
R920	B-3C
R921	B-3B
R922	A-3C
R923	A-3C

Symbol No.	Parts Location
R924	A-3C
R925	A-3C
R926	A-3C
R927	A-3C
R928	A-3C
R929	A-3C
R930	A-1C
R931	B-3C
R933	A-3B
R934	A-2D
R935	A-2B
R936	A-2C
R937	A-2C
R938	B-2C
R939	B-2C
R940	B-2D
R941	A-2D
R942	B-1C
R943	B-2D
R944	A-2C
R945	B-2D
R946	A-4D
R947	B-4D
R951	A-3D
R952	B-3B
R953	B-3B
R954	B-3B
R955	B-3D
R956	B-3D
R957	B-3E
R958	B-3E
R959	B-4D
R960	B-4D
R961	B-4D
R963	B-4D
R964	A-3C
R965	A-3C
R966	B-3C
R967	A-3C
R968	B-3C
R969	A-3C
R970	B-3C
R971	A-3C
R972	A-3C
R973	A-3C
R974	A-3C
R975	A-3C
R976	A-3D
R977	B-1B
R978	A-1A
R979	A-1A
R980	B-2D
R981	A-3B
R982	B-1B
R983	B-1B

Symbol No.	Parts Location
R984	B-1B
R985	B-1B
R986	B-1C
R987	B-1C
R988	B-1C
R989	B-1B
R990	B-2C
R991	B-2C
R992	B-2D
R993	B-3D
R994	B-3D
R995	B-3D
R996	B-3B
R998	A-2C
R999	A-1D
R1201	A-1E
R1202	B-1E
R1203	B-1E
R1205	B-1E
R1206	B-1E
R1251	B-3B
R1252	A-3B
R1253	B-2B
R1254	B-2B
R1255	B-1F
R1256	B-1F
R1258	A-1C
R1401	B-1G
R1404	B-1F
R1405	B-1F
R1406	B-1F
R1408	B-1F
R1409	B-1F
R1411	B-1F
R1412	B-1F
R1413	B-1F
R1499	B-1F
R2502L	B-3G
R2502R	B-3G
R2521	B-4E
R2522	B-4E
R2523	B-4F
R2524	A-4E
R2525	B-3G
R2526	B-2F
R2527	B-2F
R2528	B-2F
R2531	B-2G
R2532	B-3F
R2533	B-3F
R2539	A-4F
R2540N	B-3G
R2540P	B-3G
R2542	B-2F
R2544	B-4F

Symbol No.	Parts Location
R2545	B-4F
R2548	A-4G
R2550	B-4G
R2553	A-4G
RT	
RT601	A-2B
TP	
TP3	B-2B
TP4	B-2B
TP5	B-2F
TP6	B-2F
TP7	B-1D
TP8	B-4E
TP9	B-2F
TP10	B-2E
TP11	B-2E
TP12	B-2E
TP601	B-3B
TP602	B-2B
TP1203	A-1G
TP1204	B-1B
TP1206	A-1G
TP1401	B-1F
X	
X601	A-3A
X901	A-2D
X902	A-2D
X1201	A-1E
X1401	A-1F
X1402	A-1F
ZD	
ZD601	A-2A
ZD602	A-2B
ZD902	A-3D
ZD2503	A-4F

SSJ CIRCUIT BOARD -SIDE·B-

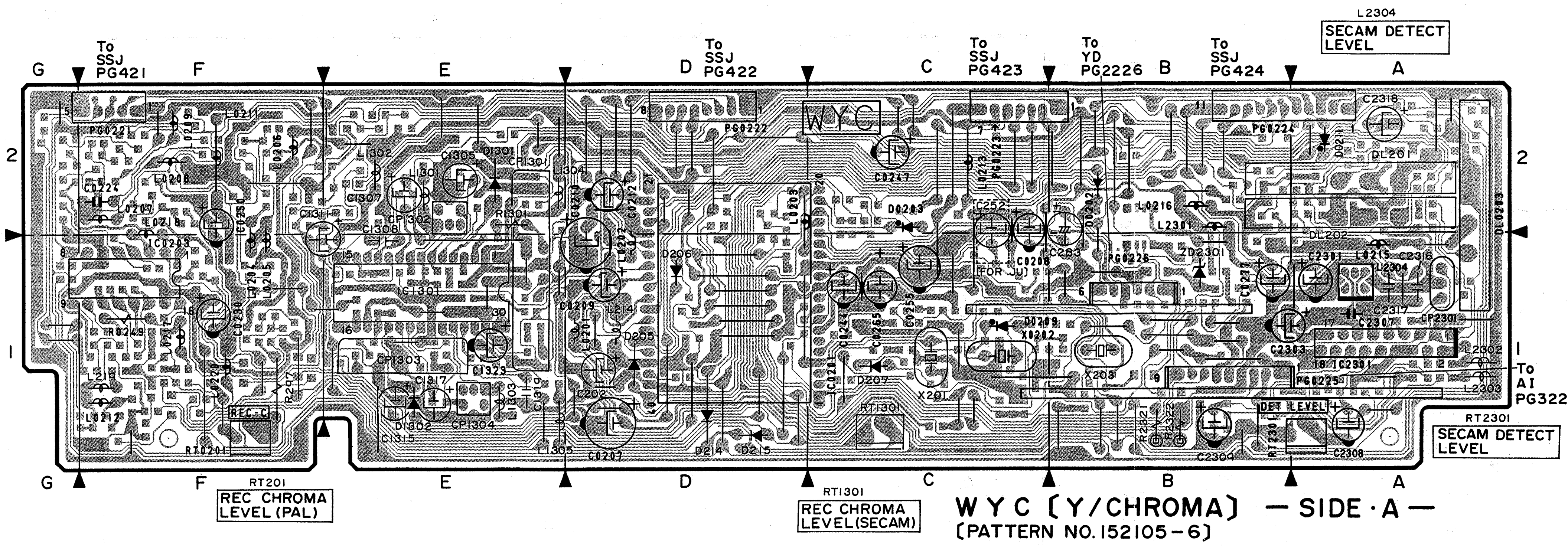


A
B
C
D
E
F
G
H
1
2
3
4
IC601
IC901
IC905
IC1401
IC2503
Q602
Q603
Q605
Q607
Q609
Q902
Q903
Q904
Q905
Q906
Q907
Q908
Q909
Q410
Q412
Q471
Q472
Q475R
Q475L
Q476
Q1201
Q1251
Q1252
Q1253
Q1254
Q1401
Q1402
Q1403
Q2501
Q2502
Q2504
Q2506
Q2508
Q2550
D479
D610
D908
D1205
D1206
D1403
TP1
TP3
TP4
TP5
TP6
TP7
TP8
TP9
TP10
TP11
TP12
TP601
TP602
TP1204
TP1401
[FOR JU]
(FOR HKN, SWN)
152105

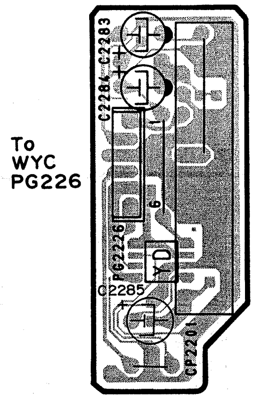
NOTE : MARK "Ⓩ" IS LEADLESS (CHIP) JUMPER.

SSJ (MAIN) — SIDE·B —

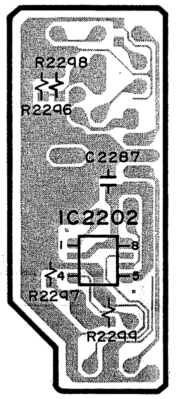
WYC. YD. AI CIRCUIT BOARDS


To SSJ PG421
To SSJ PG422
To SSJ PG423
To YD PG2226
To SSJ PG424
L2304
SECAM DETECT LEVEL
To AI PG3225
RT2301
SECAM DETECT LEVEL
RT201
REC CHROMA LEVEL (PAL)
RT1301
REC CHROMA LEVEL (SECAM)
WYC
G
F
E
D
C
B
A
1
2

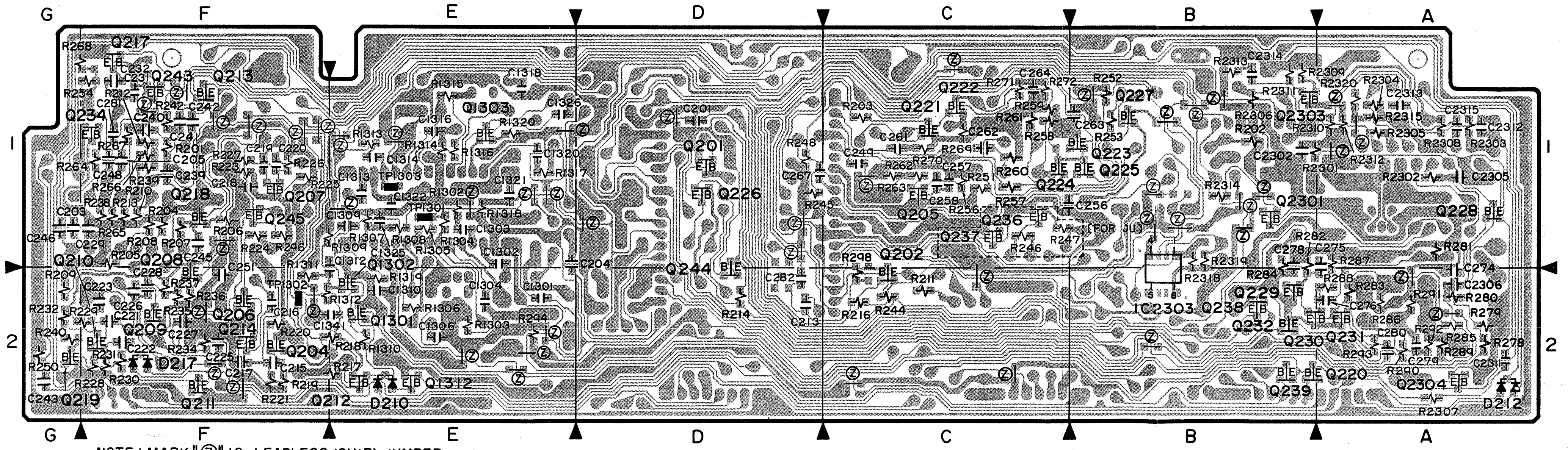
WYC (Y/CHROMA) — SIDE·A —
(PATTERN NO. 152105-6)


To WYC PG226
C2283
C2284
PG2226
C2285
C2286
YD

YD (Y-DELAY) — SIDE·A —
(PATTERN No. 152105-6)

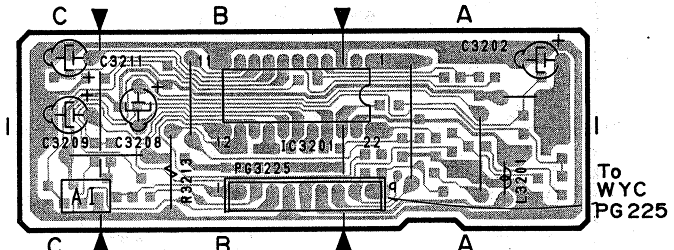

R2298
R2296
C2287
IC2202
R2297
R2299

YD (Y-DELAY) — SIDE·B —

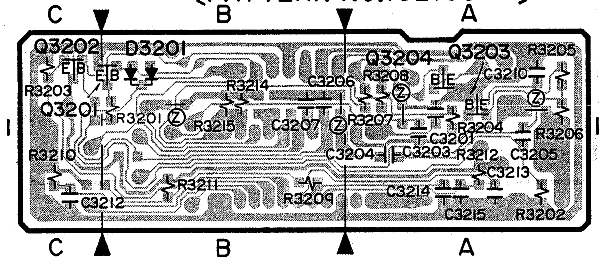


NOTE : MARK "Ⓩ" IS LEADLESS (CHIP) JUMPER.

WYC (Y/CHROMA) — SIDE·B —


C
B
A
1
To WYC PG225
C3211
C3202
C3209
C3208
IC3201
PG3225
AI

AI (AI) — SIDE·A —
(PATTERN No. 152105-6)


C
B
A
1
Q3202
D3201
Q3204
Q3203
Q3201

AI (AI) — SIDE·B —

IDENTIFICATION OF PARTS LOCATION

WYC 〔Y／CHROMA〕

Symbol No.	Parts Location
C	
C201	B-1D
C202	A-1D
C203	B-1G
C204	B-1E
C205	B-1F
C207	A-1D
C208	A-1C
C209	A-1D
C210	A-1D
C212	A-2D
C213	B-2D
C215	B-2F
C216	B-2F
C217	B-2F
C218	B-1F
C219	B-1F
C220	B-1F
C221	B-2F
C222	B-2F
C223	B-2F
C224	A-2F
C225	B-2F
C226	B-2F
C227	B-2F
C228	B-2F
C229	B-1F
C230	A-1F
C231	B-1F
C232	B-1F
C239	B-1F
C240	B-1F
C241	B-1F
C242	B-1F
C243	B-2G
C244	A-1C
C245	B-1F
C246	B-1G
C247	A-2C
C248	B-1F
C249	B-1C
C250	A-2F
C251	B-2F
C252	A-2C
C255	A-1C
C256	B-1C
C257	B-1C
C258	B-1C
C261	B-1C
C262	B-1C
C263	B-1B
C264	B-1C
C265	A-1C
C267	B-1D
C274	B-2A

Symbol No.	Parts Location
C275	B-1A
C276	B-2A
C277	A-1B
C278	B-1B
C279	B-2A
C280	B-2A
C281	B-1F
C282	B-2D
C283	A-2B
C1301	B-2E
C1302	B-1E
C1303	B-1E
C1304	B-2E
C1305	A-2E
C1306	B-2E
C1307	A-2E
C1308	A-1E
C1309	B-1E
C1310	B-2E
C1311	A-1F
C1312	B-1E
C1313	B-1E
C1314	B-1E
C1315	A-1E
C1316	B-1E
C1317	A-1E
C1318	B-1E
C1319	A-1E
C1320	B-1E
C1321	B-1E
C1322	B-1E
C1323	A-1E
C1325	B-1E
C1326	B-1E
C1341	B-2E
C2301	A-1A
C2302	B-1B
C2303	A-1B
C2305	B-1A
C2306	B-2A
C2307	A-1A
C2308	A-1A
C2309	A-1B
C2311	B-2A
C2312	B-1A
C2313	B-1A
C2314	B-1B
C2315	B-1A
C2316	A-1A
C2317	A-1A
C2318	A-2A
CP	
CP1301	A-2E
CP1302	A-2E
CP1303	A-1E

Symbol No.	Parts Location
CP1304	A-1E
CP2301	A-1A
D	
D202	A-2B
D203	A-2C
D205	A-1D
D206	A-1D
D207	A-1C
D209	A-1C
D210	B-2E
D211	A-2A
D212	B-2A
D214	A-1D
D215	A-1D
D217	B-2F
D1301	A-2E
D1302	A-1E
DL	
DL201	A-2A
DL202	A-2A
DL203	A-2A
IC	
IC201	A-1D
IC203	A-1F
IC1301	A-1E
IC2301	A-1A
IC2303	B-2B
L	
L201	A-1D
L202	A-1D
L203	A-2D
L204	A-1F
L205	A-1F
L206	A-2F
L207	A-2F
L208	A-2F
L209	A-2F
L211	A-2F
L212	A-1F
L213	A-2C
L214	A-1D
L215	A-1A
L216	A-2B
L217	A-1F
L218	A-2F
L219	A-1F
L220	A-1F
L1301	A-2E
L1302	A-2E
L1303	A-1E
L1304	A-2E
L1305	A-1E
L2301	A-2B
L2302	A-1A
L2303	A-1A

Symbol No.	Parts Location
L2304	A-1A
PG	
PG221	A-2F
PG222	A-2D
PG223	A-2C
PG224	A-2B
PG225	A-1B
PG226	A-1B
Q	
Q201	B-1D
Q202	B-2C
Q204	B-2F
Q205	B-1C
Q206	B-2F
Q207	B-1F
Q208	B-2F
Q209	B-2F
Q210	B-2F
Q211	B-2F
Q212	B-2E
Q213	B-1F
Q214	B-2F
Q217	B-1F
Q218	B-1F
Q219	B-2G
Q220	B-2B
Q221	B-1C
Q222	B-1C
Q223	B-1B
Q224	B-1C
Q225	B-1B
Q226	B-1D
Q227	B-1B
Q228	B-1A
Q229	B-2B
Q230	B-2B
Q231	B-2A
Q232	B-2B
Q234	B-1F
Q236	B-1C
Q237	B-1C
Q238	B-2B
Q239	B-2B
Q243	B-1F
Q244	B-2D
Q245	B-1F
Q1301	B-2E
Q1302	B-2E
Q1303	B-1E
Q1312	B-2E
Q2301	B-1B
Q2303	B-1B
Q2304	B-2A
R	
R201	B-1F

Symbol No.	Parts Location
R202	B-1B
R203	B-1C
R204	B-1F
R205	B-1F
R206	B-1F
R207	B-1F
R208	B-1F
R209	B-2G
R210	B-1F
R211	B-2C
R212	B-1F
R213	B-1F
R214	B-2D
R216	B-2C
R217	B-2E
R218	B-2E
R219	B-2F
R220	B-2F
R221	B-2F
R223	B-1F
R224	B-1F
R225	B-1F
R226	B-1F
R227	B-1F
R228	B-2F
R229	B-2F
R230	B-2F
R231	B-2F
R232	B-2G
R234	B-2F
R235	B-2F
R236	B-2F
R237	B-2F
R238	B-1F
R239	B-1F
R240	B-2G
R242	B-1F
R244	B-2C
R245	B-1D
R246	B-1C
R247	B-1C
R248	B-1D
R249	A-1F
R250	B-2G
R251	B-1C
R252	B-1B
R253	B-1B
R254	B-1F
R256	B-1C
R257	B-1C
R258	B-1C
R259	B-1C
R260	B-1C
R261	B-1C
R262	B-1C

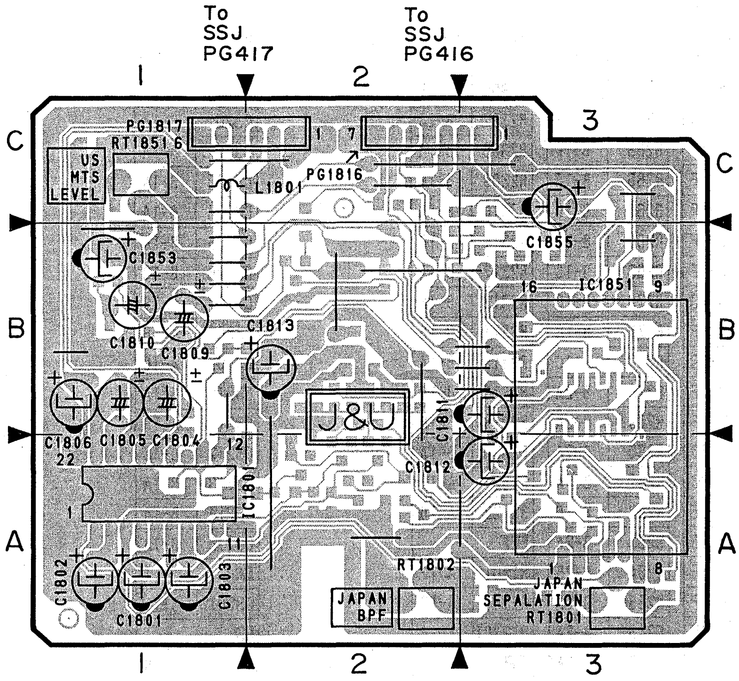
Symbol No.	Parts Location
R263	B-1C
R264	B-1F
R265	B-1F
R266	B-1F
R267	B-1F
R268	B-1G
R269	B-1C
R270	B-1C
R271	B-1C
R272	B-1C
R278	B-2A
R279	B-2A
R280	B-2A
R281	B-1A
R282	B-1B
R283	B-2A
R284	B-2B
R285	B-2A
R286	B-2A
R287	B-1A
R288	B-2A
R289	B-2A
R290	B-2A
R291	B-2A
R292	B-2A
R293	B-2A
R294	B-2E
R296	B-1F
R297	A-1F
R298	B-2C
R1301	A-2E
R1302	B-1E
R1303	B-2E
R1304	B-1E
R1305	B-1E
R1306	B-2E
R1307	B-1E
R1308	B-1E
R1309	B-1E
R1310	B-2E
R1311	B-2F
R1312	B-2F
R1313	B-1E
R1314	B-1E
R1315	B-1E
R1316	B-1E
R1317	B-1E
R1318	B-1E
R1319	B-2E
R1320	B-1E
R2301	B-1B
R2302	B-1A
R2303	B-1A
R2304	B-1A
R2305	B-1A

Symbol No.	Parts Location
R2306	B-1B
R2307	B-2A
R2308	B-1A
R2309	B-1B
R2310	B-1A
R2311	B-1B
R2312	B-1A
R2313	B-1B
R2314	B-1B
R2315	B-1A
R2318	B-1B
R2319	B-1B
R2320	B-1A
R2321	A-1B
R2322	A-1B
RT	
RT201	A-1F
RT1301	A-1C
RT2301	A-1A
TP	
TP1301	B-1E
TP1302	B-2F
TP1303	B-1E
X	
X201	A-1C
X202	A-1C
X203	A-1B
ZD	
ZD2301	A-1B

AI 〔AI〕

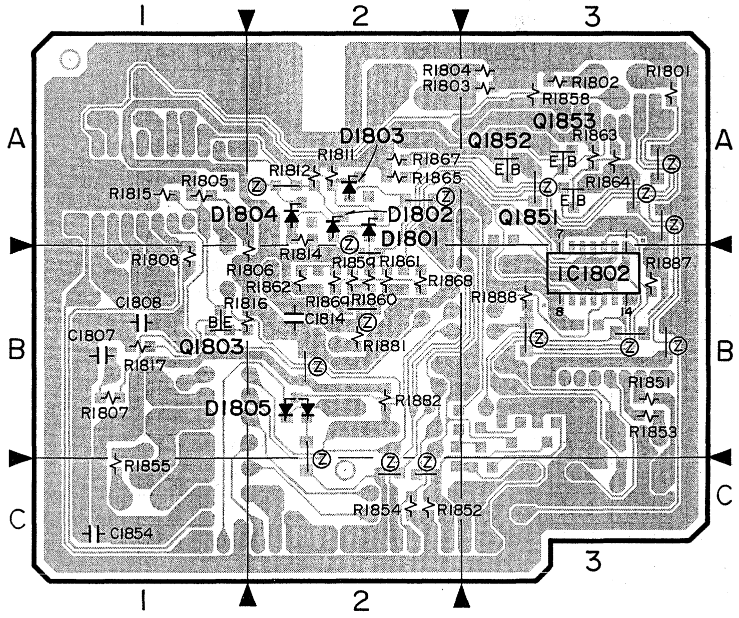
Symbol No.	Parts Location
C	
C3201	B-1A
C3202	A-1A
C3203	B-1A
C3204	B-1A
C3205	B-1A
C3206	B-1B
C3207	B-1B
C3208	A-1B
C3209	A-1C
C3210	B-1A
C3211	A-1C
C3212	B-1C
C3213	B-1A
C3214	B-1A
C3215	B-1A
D	
D3201	B-1B
IC	
IC3201	A-1B
L	
L3201	A-1A
PG	
PG3225	A-1B
Q	
Q3201	B-1B
Q3202	B-1C
Q3203	B-1A
Q3204	B-1A
R	
R3201	B-1B
R3202	B-1A
R3203	B-1C
R3204	B-1A
R3205	B-1A
R3206	B-1A
R3207	B-1A
R3208	B-1A
R3209	B-1B
R3210	B-1C
R3211	B-1B
R3212	B-1A
R3213	A-1B
R3214	B-1B
R3215	B-1B

J & U CIRCUIT BOARD



To SSJ PG417
To SSJ PG416
1
2
3
C
B
A
PG1817
RT1851
US MTS LEVEL
L1801
PG1816
C1853
C1855
IC1851
16
9
C1810
C1809
C1813
J&U
C1811
C1812
C1806
C1805
C1804
IC1801
22
12
11
1
C1802
C1801
C1803
RT1802
JAPAN BPF
JAPAN SEPALATION RT1801
8

J & U (MPX AUDIO) — SIDE A —
(FOR JU)
(PATTERN No.152142-5)



1
2
3
A
B
C
R1804
R1803
R1802
R1858
R1801
Q1853
R1863
D1803
Q1852
R1811
R1867
R1812
R1865
R1864
R1815
R1805
D1802
Q1851
D1804
D1801
R1808
R1814
R1859
R1861
IC1802
R1887
R1806
R1862
R1868
R1888
C1808
R1816
R1864
R1860
C1814
8
14
C1807
Q1803
R1881
R1817
R1851
R1807
D1805
R1882
R1853
R1855
R1854
R1852
C1854

J & U (MPX AUDIO) — SIDE B —

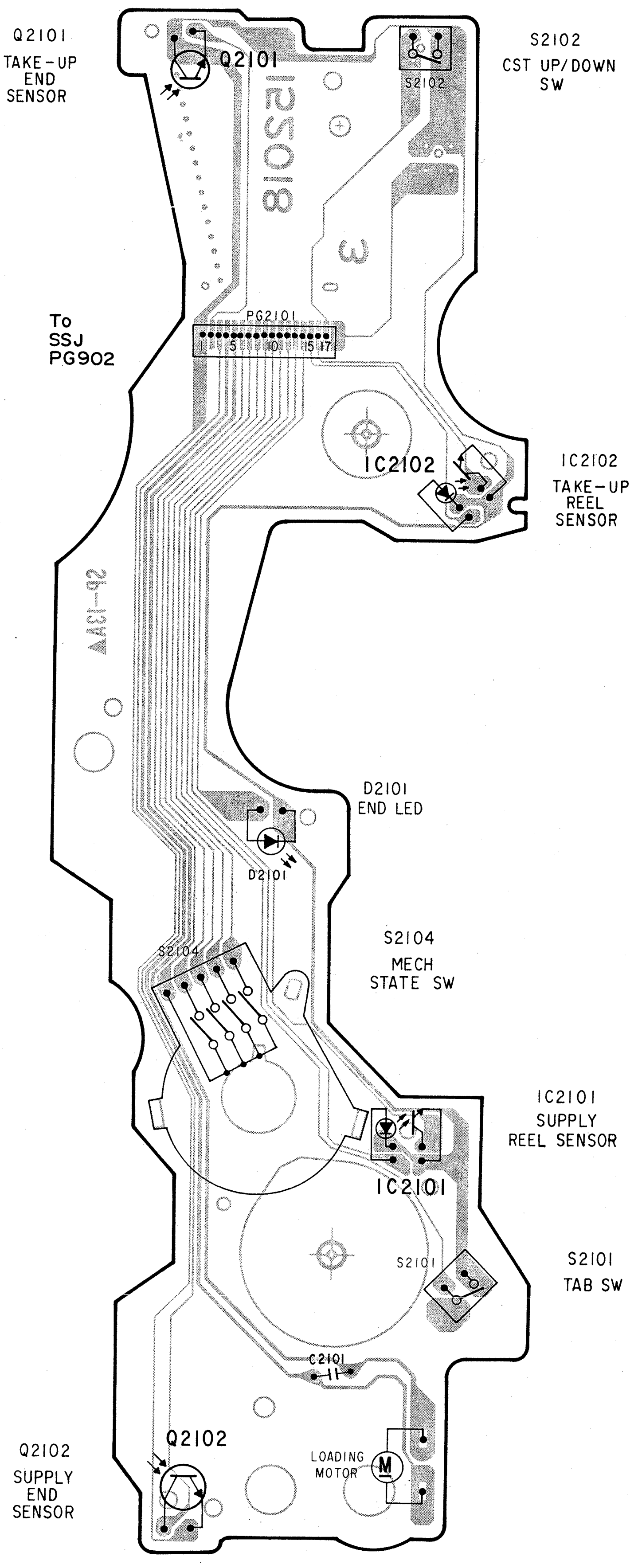
NOTE: MARK "Ⓩ" IS LEADLESS (CHIP) JUMPER.

IDENTIFICATION OF PARTS LOCATION

J & U (MPX AUDIO) (FOR JU)

Symbol No.	Parts Location
C	
C1801	A-1A
C1802	A-1A
C1803	A-1A
C1804	A-1B
C1805	A-1B
C1806	A-1B
C1807	B-1B
C1808	B-1B
C1809	A-1B
C1810	A-1B
C1811	A-3B
C1812	A-3A
C1813	A-2B
C1814	B-2B
C1853	A-1B
C1854	B-1C
C1855	A-3C
D	
D1801	B-2A
D1802	B-2A
D1803	B-2A
D1804	B-2A
D1805	B-2B
IC	
IC1801	A-1A
IC1802	B-3B
IC1851	A-3B
L	
L1801	A-1C
PG	
PG1816	A-2C
PG1817	A-1C
Q	
Q1803	B-1B
Q1851	B-3A
Q1852	B-3A
Q1853	B-3A
R	
R1801	B-3A
R1802	B-3A
R1803	B-3A
R1804	B-3A
R1805	B-1A
R1806	B-2B
R1807	B-1B
R1808	B-1B
R1811	B-2A
R1812	B-2A
R1814	B-2A
R1815	B-1A
R1816	B-1B
R1817	B-1B
R1851	B-3B
R1852	B-2C
R1853	B-3B
R1854	B-2C
R1855	B-1C
R1858	B-3A
R1859	B-2B
R1860	B-2B
R1861	B-2B
R1862	B-2B
R1863	B-3A
R1864	B-3A
R1865	B-2A
R1867	B-2A
R1868	B-2B
R1869	B-2B
R1881	B-2B
R1882	B-2B
R1887	B-3B
R1888	B-3B
RT	
RT1801	A-3A
RT1802	A-2A
RT1851	A-1C

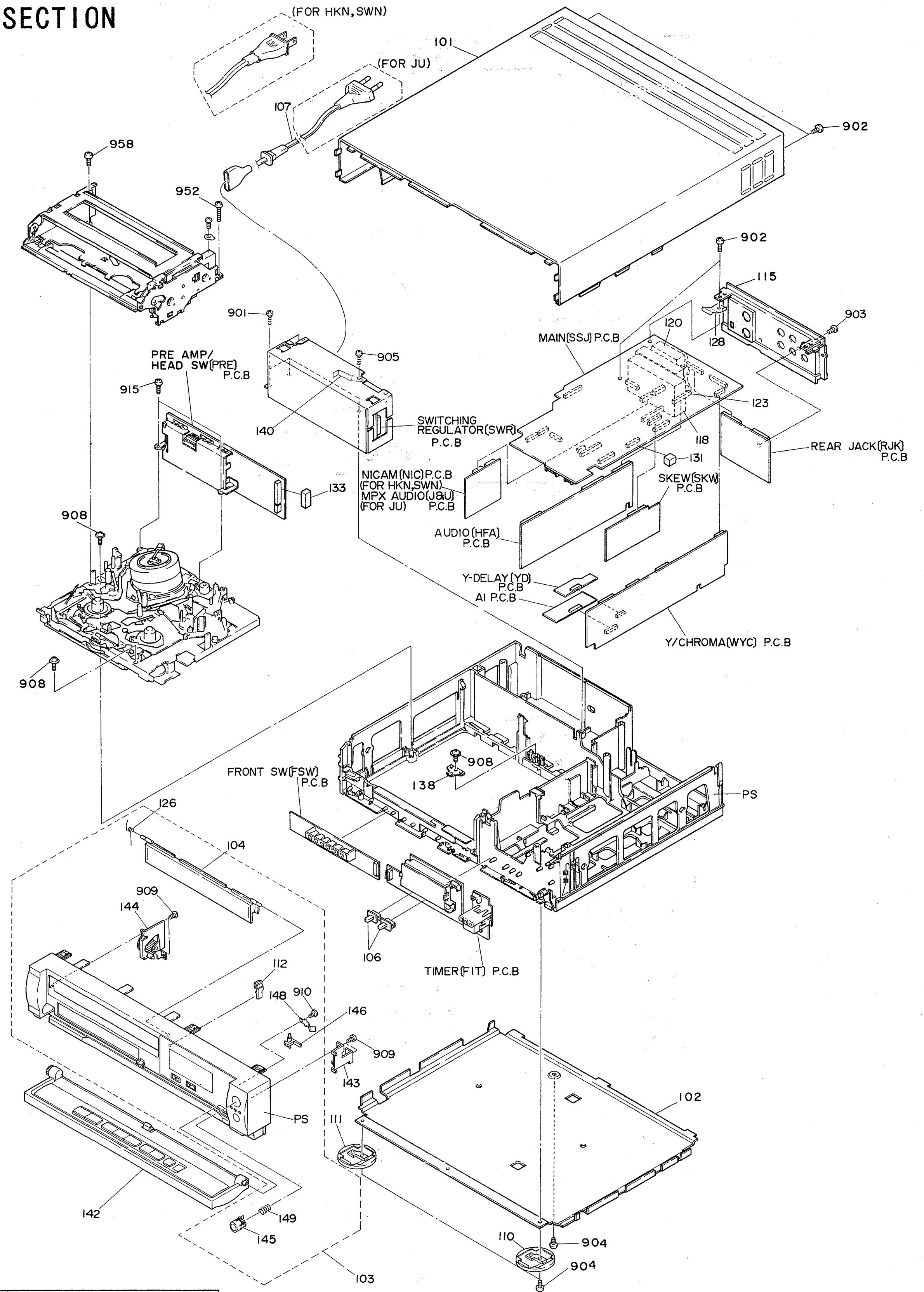
MWB CIRCUIT BOARD


Q2101
TAKE-UP
END
SENSOR
Q2101
S2102
S2102
CST UP/DOWN
SW
125018
3
To
SSJ
PG902
PG2101
1
5
10
15
17
IC2102
IC2102
TAKE-UP
REEL
SENSOR
2B-13V
D2101
END LED
D2101
S2104
S2104
MECH
STATE SW
IC2101
SUPPLY
REEL SENSOR
IC2101
S2101
S2101
TAB SW
C2101
Q2102
Q2102
SUPPLY
END
SENSOR
LOADING
MOTOR
M

MWB [SENSOR]

EXPLODED VIEWS

CABINET SECTION


(FOR HKN,SWN)
101
(FOR JU)
107
902
958
952
902
115
903
128
120
MAIN(SSJ) P.C.B
901
905
PRE AMP/
HEAD SW(PRE)
P.C.B
915
140
SWITCHING
REGULATOR(SWR)
P.C.B
123
118
REAR JACK(RJK)
P.C.B
131
NICAM(NIC)P.C.B
(FOR HKN,SWN)
MPX AUDIO(J&U)
(FOR JU) P.C.B
133
SKEW(SKW)
P.C.B
908
AUDIO(HFA)
P.C.B
Y-DELAY(YD)
P.C.B
AI P.C.B
Y/CHROMA(WYC) P.C.B
908
908
138
FRONT SW(FSW)
P.C.B
PS
126
104
909
144
106
TIMER(FIT) P.C.B
112
148
910
146
909
143
102
PS
111
142
149
145
110
904
904
103

E

D

C

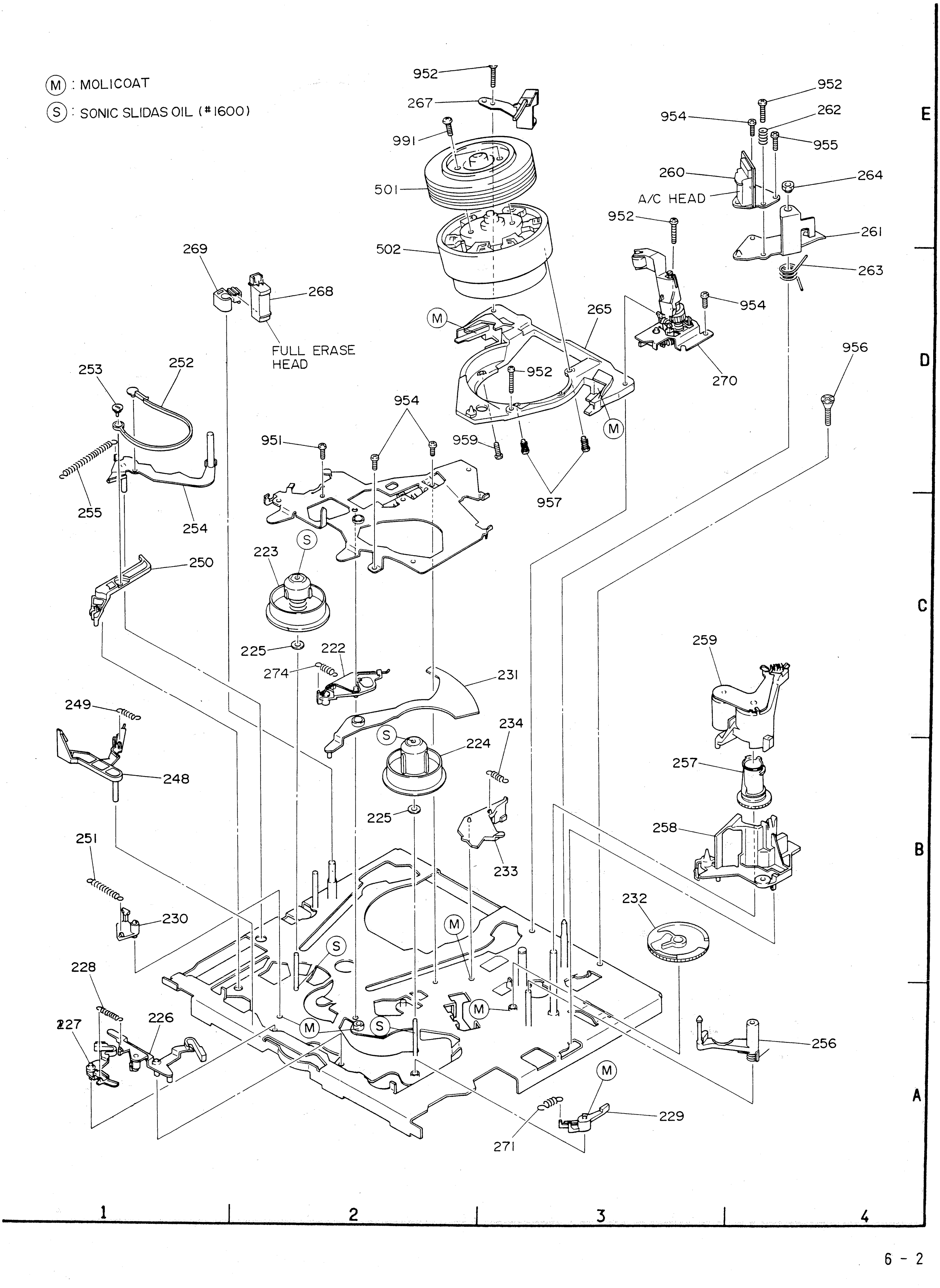
B

A

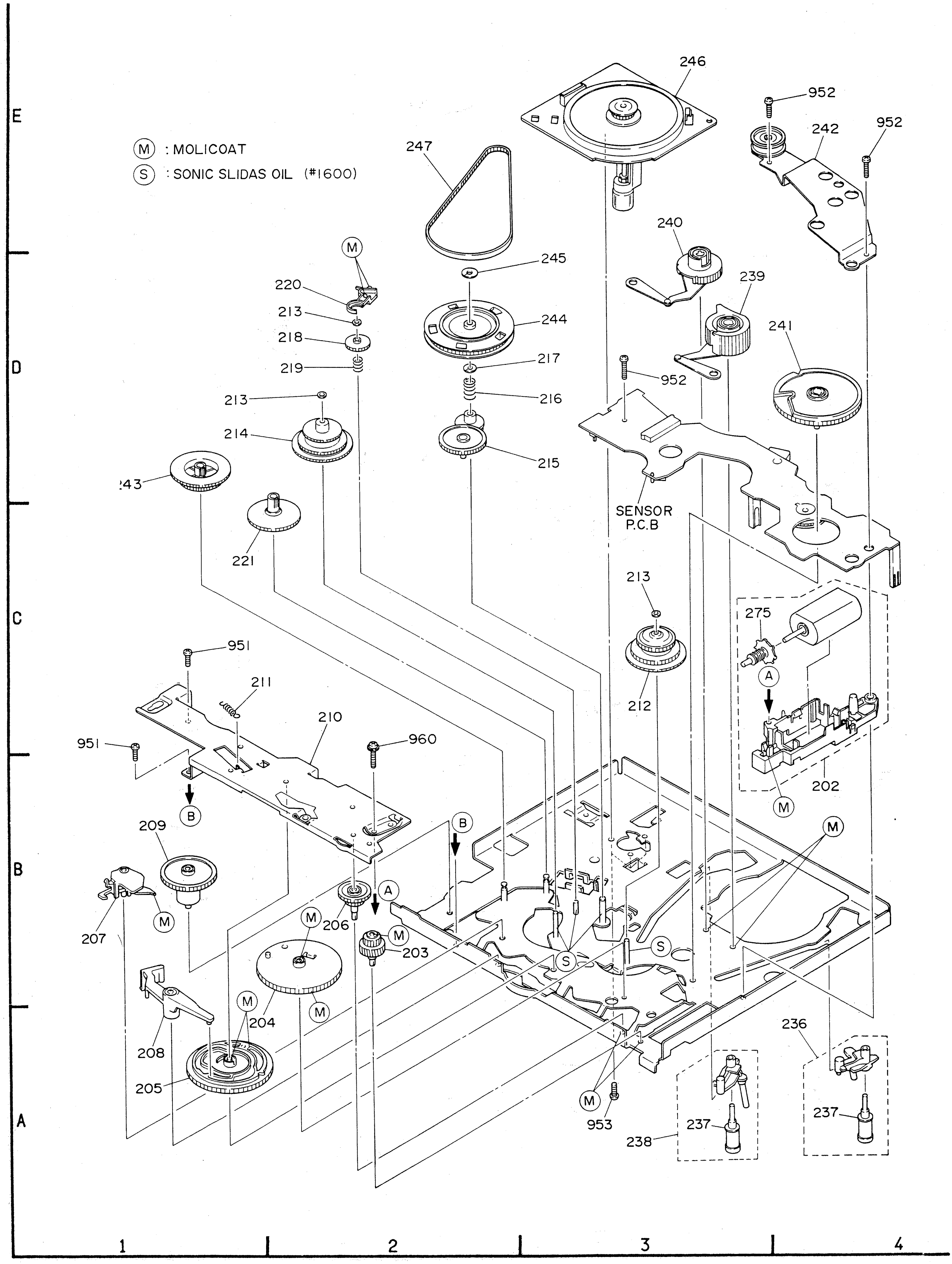
NOTE : The synthetic resin
menbers that can be
dismantled are shown
by abbreviations
using letters.

1 2 3 4

CHASSIS (I) SECTION

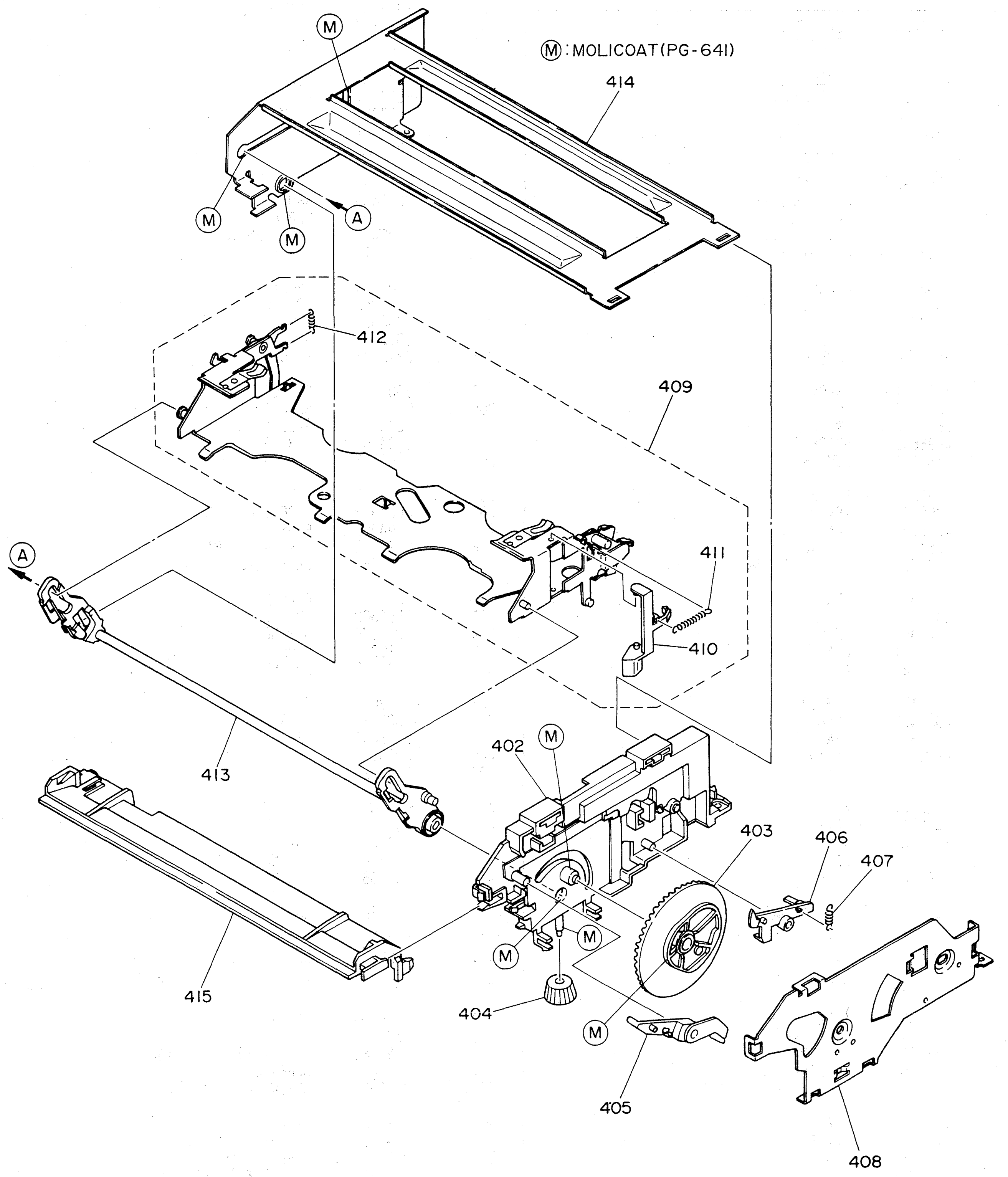

M : MOLICOAT
S : SONIC SLIDAS OIL (#1600)
952
267
991
501
502
952
954
262
955
260
264
A/C HEAD
952
261
263
954
270
265
952
956
269
268
FULL ERASE HEAD
253
252
255
254
954
951
959
957
250
223
225
222
274
231
249
248
234
224
225
233
259
257
258
251
230
232
228
227
226
256
229
271
M
S
E
D
C
B
A
1
2
3
4

CHASSIS (II) SECTION



M : MOLICOAT
S : SONIC SLIDAS OIL (#1600)
E
D
C
B
A
1
2
3
4
246
952
242
952
247
240
245
239
220
213
244
218
241
219
217
952
213
216
214
215
243
SENSOR P.C.B
221
213
275
A
951
211
212
210
951
960
202
B
M
209
B
M
M
207
206
A
M
M
203
S
S
M
204
208
M
205
236
M
953
237
238
237

CASSETTE LOADING MECHANISM SECTION



Ⓜ:MOLICOAT(PG-641)
414
Ⓜ
Ⓜ
Ⓜ
Ⓐ
412
409
411
410
Ⓐ
413
402
Ⓜ
403
406
407
415
Ⓜ
Ⓜ
404
Ⓜ
405
408
E
D
C
B
A
1
2
3
4

CHAPTER 7

REPLACEMENT PARTS LIST

1. MECHANICAL PARTS LIST

Note : This replacement parts list applies to the following model.
Applicable model: VT-F90EM(JU).

SYMBOL-NO	P-NO	DESCRIPTION
		FOR FINAL ASSEMBLY
101	6009464	COVER, TOP
102	6009477	COVER, BOTTOM
103	4731185	PANEL, FRONT
104	4725892	DOOR, CASSETTE
106	4752212	KNOB
⚠107	5850825	CORD, POWER
110	6680291	INSULATOR
111	6680292	INSULATOR
112	4590321	STOPPER, DOOR
115	4731335	PANEL, REAR
118	1730501	TUNER IF UNIT
120	5589681	RF CONVERTER
123	5886821	CABLE
126	6551851	SPRING, DOOR
128	4842811	PLATE
131	6562924	RUBBER
133	6562928	RUBBER
138	7429641	BRACKET
140	6529132	PLATE
142	5604822	SWITCH
143	4896692	BRACKET
144	4587161	DUMPER
145	4751981	BOTTOM
146	6408471	ARM
148	4826591	PLATE
149	6554121	SPRING
202	6500761	MOTOR, LOADING
203	6441371	GEAR
204	6441392	GEAR
205	6441403	GEAR
206	6441381	GEAR
207	6823133	ARM
208	6823171	ARM, OPERATION
209	6441421	GEAR
210	6500321	BRACKET
211	6558551	SPRING
212	6405181	GEAR
213	7788347	WASHER
214	6405191	GEAR
215	6401445	ARM
216	6522979	SPRING
217	6500841	WASHER
218	6441433	GEAR, CHANGE
219	6522978	SPRING
220	6823183	ARM
221	6441411	GEAR
222	6823314	ARM
223	6416631	REEL, TABLE(S)
224	6416652	REEL, TABLE(T)
225	4583333	WASHER
226	6823195	ARM, BRAKE(R)
227	6823229	ARM, BRAKE(L)
228	6318613	SPRING
229	6823271	BRAKE
230	6823261	BRAKE
231	6500414	ARM
232	6823251	GEAR
233	6823292	BRAKE
234	6558452	SPRING
236	6638942	BASE, GUIDE ROLLER(I)
237	4583124	GUIDE ROLLER
238	6638954	BASE, GUIDE ROLLER(O)
239	6500505	GEAR, LOADING(L)
240	6500464	GEAR, LOADING(R)
241	6823536	GEAR, MODE
242	6500549	BRACKET
243	6823541	GEAR
244	6823333	PULLEY
245	6500841	WASHER
246	1470083	DC MOTOR
247	6358101	BELT
248	6823423	ARM
249	6553361	SPRING
250	6823435	ARM
251	6553301	SPRING
252	6823473	BAND, TENSION
253	6823511	SHAFT
254	6500684	ARM, TENSION
255	6553352	SPRING
256	6638934	ARM
257	6823521	GEAR, CAM
258	6823445	BRACKET
259	6500431	ROLLER, PRESSURE
260	5434151	HEAD, AUDIO CONTROL
261	6500593	BASE, AC HEAD
262	6304906	SPRING
263	6553151	SPRING
264	7785673	NUT
265	6638903	BASE, CYLINDER
267	5794062	BRUSH
268	5423071	HEAD, FULL ERASE
269	6823462	BASE, HEAD
270	6500705	BRACKET
271	6558502	SPRING
274	6320576	SPRING
275	6816211	WORM
402	6823613	BRACKET
403	6823621	GEAR
404	6823631	GEAR
405	6823642	ARM
406	6823652	ARM
407	6558531	SPRING
408	6500612	BRACKET
409	6500622	HOLDER
410	6823691	ARM
411	6558541	SPRING
412	6558561	SPRING
413	6823663	ARM
414	6500672	BRACKET
415	6823701	HOLDER
501	5435722	CYLINDE, UPPER (CY-G6S2)
502	5435712	CYLINDER, ASSY (CY-G6S2)
901	8699410	SCREW(3X10)
902	8699412	SCREW (3X12) BLACK
903	7781582	FALT SCREW-3MMDX10MM(BLACK)
904	8699414	SCREW(3X14)
905	8741406	SCREW(3X6)
908	7781138	SCREW(3X10BT)
909	8691308	SCREW BT2. 6MMDX8MM
910	8691305	SCREW(2. 6X5)
915	0671305	DT SCREW-2. 6MMDX5MM
951	0711304	SCREW(2. 6X4)
952	0711312	PAN HEAD SCREW - 2. 6MMD X 12MM
953	8691306	BT SCREW 2. 6MM
954	0711306	PAN HEAD SCREW-2. 6MMDX6MM
955	7773741	SCREW
956	45281813	SCREW

SYMBOL-NO	P-NO	DESCRIPTION
957	7775582	SCREW
958	7773761	SCREW
959	8741408	SCREW (B3X8)
960	8650914	SCREW(2.6X14)
991	7784131	SCREW(3X8)
		FOR ACCESARIES
802	1890111	CABLE
802	5616384	REMOTE HAND SET
804	5661341	PLUG FOR F-PAL
805	5856023	CORD
807	5662261	SIEMENS ADAPTOR

SYMBOL-NO	P-NO	DESCRIPTION

2. ELECTRICAL PARTS LIST

Note : This replacement parts list applies to the following model.
Applicable model: VT-F90EM(JU).

SYMBOL-NO	P-NO	DESCRIPTION
		CAPACITORS
C0201	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0202	0800038	ELECTROLYTIC 47UF 6.3V
C0203	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0204	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0205	0893082	CERAMIC CHIP 0.022UF
C0207	0800072	ELECTROLYTIC 470UF 6.3V
C0208	0800175	ELECTROLYTIC 1.0UF 50V
C0209	0800015	ELECTROLYTIC 10UF 16V
C0210	0800072	ELECTROLYTIC 470UF 6.3V
C0212	0800015	ELECTROLYTIC 10UF 16V
C0213	0209893	CERAMIC CHIP 22PF+-10% 50V
C0215	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0216	0209899	CERAMIC DISC 120PF+-5% 50V
C0217	0209854	CERAMIC DISC 330PF+-5% 50V
C0218	0209854	CERAMIC DISC 330PF+-5% 50V
C0219	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0220	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0221	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0222	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0223	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0224	0880017	POLYESTER FILM 0.15UF+-10% 50V
C0225	0209856	CERAMIC DISC 220PF+-5% 50V
C0226	0209896	CERAMIC CHIP 47PF+-5% 50V
C0227	0209848	CERAMIC DISC 150PF+-5% 50V
C0228	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0229	0893082	CERAMIC CHIP 0.022UF
C0230	0800038	ELECTROLYTIC 47UF 6.3V
C0231	0209852	CERAMIC CHIP 180PF+-5% 50V
C0232	0209903	CERAMIC CHIP 470PF+-5% 50V
C0239	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0240	0209847	CERAMIC CHIP 82PF+-10% 50V
C0241	0209896	CERAMIC CHIP 47PF+-5% 50V
C0242	0209854	CERAMIC DISC 330PF+-5% 50V
C0243	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0244	0800179	ELECTROLYTIC 10UF 16V
C0245	0209897	CERAMIC CHIP 56PF+-5% 50V
C0246	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0247	0800179	ELECTROLYTIC 10UF 16V
C0248	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0249	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0250	0800038	ELECTROLYTIC 47UF 6.3V
C0251	0893082	CERAMIC CHIP 0.022UF
C0252	0800022	ELECTROLYTIC 22UF 10V
C0255	0800038	ELECTROLYTIC 47UF 6.3V
C0256	0209935	CERAMIC CHIP 27PF+-5% 50V
C0257	0209940	CERAMIC CHIP 68PF+-5% 50V
C0258	0209942	CERAMIC CHIP 100PF+-5% 50V
C0261	0209940	CERAMIC CHIP 68PF+-5% 50V
C0262	0209941	CERAMIC DISC 82PF+-5%
C0263	0893082	CERAMIC CHIP 0.022UF
C0264	0893082	CERAMIC CHIP 0.022UF
C0265	0800177	ELECTROLYTIC 3.3UF 50V
C0267	0893082	CERAMIC CHIP 0.022UF
C0274	0209854	CERAMIC DISC 330PF+-5% 50V
C0275	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0276	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0277	0800185	ELECTROLYTIC 47UF 6.3V
C0278	0893082	CERAMIC CHIP 0.022UF
C0279	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0280	0893082	CERAMIC CHIP 0.022UF
C0281	0209851	CERAMIC DISC 15PF+-5% 50V
C0282	0209851	CERAMIC DISC 15PF+-5% 50V
C0283	0207444	ELECTROLYTIC 1.0UF 50V
C1201	0893018	CERAMIC CHIP 0.022UF+-10% 25V
C1202	0800178	ELECTROLYTIC 4.7UF 35V
C1203	0209940	CERAMIC CHIP 68PF+-5% 50V
C1204	0209941	CERAMIC DISC 82PF+-5%
C1205	0209928	CERAMIC DISC 8PF+-5% 50V
C1206	0800109	ELECTROLYTIC 1.0UF 50V
C1207	0890045	CERAMIC DISC 0.047UF+80-20% 50V
C1208	0800109	ELECTROLYTIC 1.0UF 50V
C1209	0800109	ELECTROLYTIC 1.0UF 50V
C1210	0209941	CERAMIC DISC 82PF+-5%
C1211	0800047	ELECTROLYTIC 100UF 6.3V
C1212	0893065	CERAMIC CHIP 0.047UF+80-20% 25V
C1213	0209933	CERAMIC CHIP 18PF+-5% 50V
C1214	0209940	CERAMIC CHIP 68PF+-5% 50V
C1215	0209934	CERAMIC CHIP 22PF+-5% 50V
C1216	0800141	ELECTROLYTIC 47UF 16V
C1217	0209938	CERAMIC CHIP 47PF+-5% 50V
C1218	0209938	CERAMIC CHIP 47PF+-5% 50V
C1219	0207444	ELECTROLYTIC 1.0UF 50V
C1220	0893065	CERAMIC CHIP 0.047UF+80-20% 25V
C1221	0800141	ELECTROLYTIC 47UF 16V
C1222	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C1224	0800117	ELECTROLYTIC 4.7UF 25V
C1251	0209848	CERAMIC DISC 150PF+-5% 50V
C1253	0893062	CERAMIC CHIP 1UF+80-20% 16V
C1301	0209898	CERAMIC CHIP 100PF+-5% 50V
C1302	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1303	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1304	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1305	0800179	ELECTROLYTIC 10UF 16V
C1306	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1307	0800022	ELECTROLYTIC 22UF 10V
C1308	0880012	POLYESTER FILM 0.022UF+-10% 50V
C1309	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1310	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1311	0800064	ELECTROLYTIC 330UF 6.3V
C1312	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1313	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1314	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1315	0800009	ELECTROLYTIC 4.7UF 25V
C1316	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1317	0800015	ELECTROLYTIC 10UF 16V
C1318	0209896	CERAMIC CHIP 47PF+-5% 50V
C1319	0880016	POLYESTER FILM 0.1UF+-10% 50V
C1320	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1321	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1322	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1323	0800038	ELECTROLYTIC 47UF 6.3V
C1325	0209898	CERAMIC CHIP 100PF+-5% 50V
C1326	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1341	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1401	0209930	CERAMIC CHIP 10PF+-0.5% 50V
C1402	0209933	CERAMIC CHIP 18PF+-5% 50V
C1403	0209930	CERAMIC CHIP 10PF+-0.5% 50V
C1404	0209933	CERAMIC CHIP 18PF+-5% 50V
C1406	0209936	CERAMIC CHIP 33PF+-5% 50V
C1407	0800186	ELECTROLYTIC 47UF 16V
C1409	0893055	CERAMIC CHIP 0.1UF+80-20% 16V
C1410	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C1411	0800057	ELECTROLYTIC 220UF 10V
C1412	0893018	CERAMIC CHIP 0.022UF+-10% 25V
C1413	0207456	ELECTROLYTIC 1UF 50V
C1414	0893031	CERAMIC CHIP 1000PF+-10% 50V
C1415	0800003	ELECTROLYTIC 1UF 50V

SYMBOL-NO	P-NO	DESCRIPTION
C1416	0209852	CERAMIC CHIP 180PF+-5% 50V
C1417	0207456	ELECTROLYTIC 1UF 50V
C1418	0893032	CERAMIC CHIP 1200PF+-10% 50V
C1419	0893042	CERAMIC CHIP 6800PF+-10% 50V
C1420	0209929	CERAMIC CHIP 9.0PF+-0.5% 50V
C1421	0209929	CERAMIC CHIP 9.0PF+-0.5% 50V
C1423	0209894	CERAMIC CHIP 27PF+-10% 50V
C1701	0890043	CERAMIC DISC 0.01UF+-20% 16V
C1702	0800183	ELECTROLYTIC 330UF 10V
C1801	0800122	ELECTROLYTIC 10UF 16V
C1802	0800122	ELECTROLYTIC 10UF 16V
C1803	0800015	ELECTROLYTIC 10UF 16V
C1804	0207458	ELECTROLYTIC 10UF 25V
C1805	0207458	ELECTROLYTIC 10UF 25V
C1806	0800015	ELECTROLYTIC 10UF 16V
C1807	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C1808	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C1809	0207458	ELECTROLYTIC 10UF 25V
C1810	0207458	ELECTROLYTIC 10UF 25V
C1811	0800015	ELECTROLYTIC 10UF 16V
C1812	0800015	ELECTROLYTIC 10UF 16V
C1813	0800041	ELECTROLYTIC 47UF 16V
C1814	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C1853	0800041	ELECTROLYTIC 47UF 16V
C1854	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C1855	0800015	ELECTROLYTIC 10UF 16V
C2101	0890045	CERAMIC DISC 0.047UF+80-20% 50V
C2283	0800185	ELECTROLYTIC 47UF 6.3V
C2284	0800179	ELECTROLYTIC 10UF 16V
C2285	0800179	ELECTROLYTIC 10UF 16V
C2287	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C2301	0800185	ELECTROLYTIC 47UF 6.3V
C2302	0893084	CERAMIC CHIP 0.047UF+80-20% 50V
C2303	0800177	ELECTROLYTIC 3.3UF 50V
C2305	0209853	CERAMIC DISC 68PF+-5% 50V
C2306	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C2307	0880011	POLYESTER FILM 0.015UF+-10% 50V
C2308	0800179	ELECTROLYTIC 10UF 16V
C2309	0800183	ELECTROLYTIC 330UF 10V
C2311	0209894	CERAMIC CHIP 27PF+-10% 50V
C2312	0209894	CERAMIC CHIP 27PF+-10% 50V
C2313	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C2314	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C2315	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C2316	0880008	POLYESTER FILM 6800PF+-10% 50V
C2317	0880014	POLYESTER FILM 0.047UF+-10% 50V
C2318	0800015	ELECTROLYTIC 10UF 16V
C2507	0800049	ELECTROLYTIC 100UF 16V
C2508	0800048	ELECTROLYTIC 100UF 10V
C2509N	0207406	ELECTROLYTIC 10UF 10V
C2509P	0207406	ELECTROLYTIC 10UF 10V
C2510N	0800039	ELECTROLYTIC 47UF 10V
C2510P	0800039	ELECTROLYTIC 47UF 10V
C2514	0800178	ELECTROLYTIC 4.7UF 35V
C2515	0800074	ELECTROLYTIC 470UF 16V
C2516	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C2517	0800012	ELECTROLYTIC 4.7UF 50V
C2518	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C2520	0800186	ELECTROLYTIC 47UF 16V
C2521	0800103	ELECTROLYTIC 0.22UF 50V
C2522	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C2523	0800041	ELECTROLYTIC 47UF 16V
C2524	0800039	ELECTROLYTIC 47UF 10V
C2529	0207454	ELECTROLYTIC 47UF 10V
C2530	0800041	ELECTROLYTIC 47UF 16V
C2531	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C2532	0800039	ELECTROLYTIC 47UF 10V
C2533	0800039	ELECTROLYTIC 47UF 10V
C2534	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C2535	0800039	ELECTROLYTIC 47UF 10V
C3201	0893084	CERAMIC CHIP 0.047UF+80-20% 50V
C3202	0800185	ELECTROLYTIC 47UF 6.3V
C3203	0893084	CERAMIC CHIP 0.047UF+80-20% 50V
C3204	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C3205	0209895	CERAMIC CHIP 39PF+-5% 50V
C3206	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C3207	0893084	CERAMIC CHIP 0.047UF+80-20% 50V
C3208	0800179	ELECTROLYTIC 10UF 16V
C3209	0800178	ELECTROLYTIC 4.7UF 35V
C3210	0209896	CERAMIC CHIP 47PF+-5% 50V
C3211	0800176	ELECTROLYTIC 2.2UF 50V
C3212	0893086	CERAMIC CHIP 0.1UF+80-20% 50V
C3213	0209848	CERAMIC DISC 150PF+-5% 50V
C3214	0209895	CERAMIC CHIP 39PF+-5% 50V
C3215	0893033	CERAMIC CHIP 1500PF+-10% 50V
C401	0800032	ELECTROLYTIC 33UF 16V
C402	0893037	CERAMIC CHIP 3300PF+-10% 50V
C403	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C404	0268449	MYLAR 0.047UF+-5% 50V
C405	0209856	CERAMIC DISC 220PF+-5% 50V
C406	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C407	0800041	ELECTROLYTIC 47UF 16V
C409	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C410	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C411	0893017	CERAMIC CHIP 0.018UF+-10% 25V
C412	0209906	CERAMIC DISC 820PF+-5% 50V
C413	0893037	CERAMIC CHIP 3300PF+-10% 50V
C414	0800022	ELECTROLYTIC 22UF 10V
C415	0880011	POLYESTER FILM 0.015UF+-10% 50V
C416	0800128	ELECTROLYTIC 22UF 16V
C417	0800122	ELECTROLYTIC 10UF 16V
C418	0800122	ELECTROLYTIC 10UF 16V
C420	0800122	ELECTROLYTIC 10UF 16V
C421	0800122	ELECTROLYTIC 10UF 16V
C422	0209904	CERAMIC DISC 560PF+-5% 50V
C4501	0255138	ELECTROLYTIC 470UF 6.3V
C471LR	0207458	ELECTROLYTIC 10UF 25V
C474LR	0800176	ELECTROLYTIC 2.2UF 50V
C475LR	0800175	ELECTROLYTIC 1.0UF 50V
C477	0800011	ELECTROLYTIC 4.7UF 35V
C478	0800038	ELECTROLYTIC 47UF 6.3V
C479	0207457	ELECTROLYTIC 4.7UF 50V
C483LR	0893035	CERAMIC CHIP 2200PF+-10% 50V
C484	0893018	CERAMIC CHIP 0.022UF+-10% 25V
C485	0209942	CERAMIC CHIP 100PF+-5% 50V
C486	0209933	CERAMIC CHIP 18PF+-5% 50V
C491	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C501	0800051	ELECTROLYTIC 100UF 25V
C502	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C503L	0800118	ELECTROLYTIC 4.7UF 35V
C503R	0800118	ELECTROLYTIC 4.7UF 35V
C504L	0800118	ELECTROLYTIC 4.7UF 35V
C504R	0800118	ELECTROLYTIC 4.7UF 35V
C508L	0800032	ELECTROLYTIC 33UF 16V
C508R	0800183	ELECTROLYTIC 330UF 10V
C509L	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C509R	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C510L	0800112	ELECTROLYTIC 2.2UF 50V
C510R	0800112	ELECTROLYTIC 2.2UF 50V
C511L	0800041	ELECTROLYTIC 47UF 16V

SYMBOL-NO	P-NO	DESCRIPTION
C511R	0800141	ELECTROLYTIC 47UF 16V
C512L	0880011	POLYESTER FILM 0.015UF+-10% 50V
C512R	0880011	POLYESTER FILM 0.015UF+-10% 50V
C513	0800127	ELECTROLYTIC 220UF 10V
C514L	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C514R	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C515L	0893031	CERAMIC CHIP 1000PF+-10% 50V
C515R	0893031	CERAMIC CHIP 1000PF+-10% 50V
C516L	0800048	ELECTROLYTIC 100UF 10V
C516R	0800048	ELECTROLYTIC 100UF 10V
C517L	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C517R	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C518	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C519	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C520	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C521	0800139	ELECTROLYITC 47UF 10V
C522	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C523	0893013	CERAMIC CHIP 0.22UF+-10% 16V
C524	0209900	CERAMIC CHIP 270PF+-5% 50V
C530	0800041	ELECTROLYTIC 47UF 16V
C531	0800122	ELECTROLYTIC 10UF 16V
C532	0893039	CERAMIC CHIP 4700PF+-10% 50V
C534	0800122	ELECTROLYTIC 10UF 16V
C536	0800122	ELECTROLYTIC 10UF 16V
C539	0207457	ELECTROLYTIC 4.7UF 50V
C543	0209853	CERAMIC DISC 68PF+-5% 50V
C548	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C550L	0800118	ELECTROLYTIC 4.7UF 35V
C550R	0800118	ELECTROLYTIC 4.7UF 35V
C552	0800118	ELECTROLYTIC 4.7UF 35V
C601	0893031	CERAMIC CHIP 1000PF+-10% 50V
C602	0800031	ELECTROLYTIC 33UF 10V
C603	0800179	ELECTROLYTIC 10UF 16V
C604	0209893	CERAMIC CHIP 22PF+-10% 50V
C606	0893037	CERAMIC CHIP 3300PF+-10% 50V
C607	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C608	0893018	CERAMIC CHIP 0.022UF+-10% 25V
C609	0209903	CERAMIC CHIP 470PF+-5% 50V
C611	0880018	POLYESTER FILM 0.22UF+-10% 50V
C612	0800005	ELECTROLYTIC 2.2UF 50V
C613	0207456	ELECTROLYTIC 1UF 50V
C614	0893051	CERAMIC CHIP 0.033UF+-10% 50V
C615	0207459	ELECTROLYTIC 0.47UF 50V
C616	0254454	ELECTROLYTIC 10UF 16V
C617	0893016	CERAMIC CHIP 0.015UF+-10% 25V
C618	0800015	ELECTROLYTIC 10UF 16V
C619	0893033	CERAMIC CHIP 1500PF+-10% 50V
C620	0207401	ELECTROLYTIC 0.33UF 50V
C621	0893018	CERAMIC CHIP 0.022UF+-10% 25V
C622	0800047	ELECTROLYTIC 100UF 6.3V
C623	0800179	ELECTROLYTIC 10UF 16V
C624	0209854	CERAMIC DISC 330PF+-5% 50V
C625	0800179	ELECTROLYTIC 10UF 16V
C626	0209899	CERAMIC DISC 120PF+-5% 50V
C627	0893018	CERAMIC CHIP 0.022UF+-10% 25V
C628	0800182	ELECTROLYTIC 22UF 16V
C630	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C631	0209936	CERAMIC CHIP 33PF+-5% 50V
C632	0893031	CERAMIC CHIP 1000PF+-10% 50V
C633	0209940	CERAMIC CHIP 68PF+-5% 50V
C634	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C635	0890043	CERAMIC DISC 0.01UF+-20% 16V
C636	0890043	CERAMIC DISC 0.01UF+-20% 16V
C640	0893025	CERAMIC CHIP 0.068UF+-10% 25V
C641	0893039	CERAMIC CHIP 4700PF+-10% 50V

SYMBOL-NO	P-NO	DESCRIPTION
C642	0890039	CERAMIC DISC 4700PF+-20% 16V
C646	0800176	ELECTROLYTIC 2.2UF 50V
C647	0800186	ELECTROLYTIC 47UF 16V
C650	0207406	ELECTROLYTIC 10UF 10V
C701	0890024	CERAMIC DISC 150PF+-10% 50V
C702	0890043	CERAMIC DISC 0.01UF+-20% 16V
C703	0800186	ELECTROLYTIC 47UF 16V
C901	0209856	CERAMIC DISC 220PF+-5% 50V
C903	0209856	CERAMIC DISC 220PF+-5% 50V
C904	0209846	CERAMIC CHIP 33PF+-10% 50V
C905	0209856	CERAMIC DISC 220PF+-5% 50V
C906	0209846	CERAMIC CHIP 33PF+-10% 50V
C908	0209854	CERAMIC DISC 330PF+-5% 50V
C912	0209848	CERAMIC DISC 150PF+-5% 50V
C913	0209848	CERAMIC DISC 150PF+-5% 50V
C917	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C918	0800038	ELECTROLYTIC 47UF 6.3V
C919	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C922	0209935	CERAMIC CHIP 27PF+-5% 50V
C923	0209932	CERAMIC CHIP 15PF+-5% 50V
C924	0800038	ELECTROLYTIC 47UF 6.3V
C925	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C926	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C927	0800038	ELECTROLYTIC 47UF 6.3V
C928	0217516	CAPACITOR 0.047F+80-20% 5V
C929	0800003	ELECTROLYTIC 1UF 50V
C930	0800003	ELECTROLYTIC 1UF 50V
C931	0209898	CERAMIC CHIP 100PF+-5% 50V
C932	0893031	CERAMIC CHIP 1000PF+-10% 50V
C933	0893031	CERAMIC CHIP 1000PF+-10% 50V
C934	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C935	0893018	CERAMIC CHIP 0.022UF+-10% 25V
C936	0800033	ELECTROLYTIC 33UF 25V
C937	0893018	CERAMIC CHIP 0.022UF+-10% 25V
C939	0800183	ELECTROLYTIC 33UF 10V
C940	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C941	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C942	0893018	CERAMIC CHIP 0.022UF+-10% 25V
C944	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C946	0893055	CERAMIC CHIP 0.1UF+80-20% 16V
C950	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C951	0209856	CERAMIC DISC 220PF+-5% 50V
CT1401	5058495	TRIMMER CAPACITOR
		RESISTORS
R0201	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0202	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0203	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0204	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R0205	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0206	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R0207	0103840	CHIP RESISTOR 560 OHM+-5% 0.1W
R0208	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R0209	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R0210	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R0211	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0212	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0213	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R0214	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0216	0103854	CHIP RESISTOR 8.2KOHM+-5% 0.1W
R0217	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0218	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0219	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R0220	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W

SYMBOL-NO	P-NO	DESCRIPTION
R0221	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R0223	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0224	0103849	CHIP RESISTOR 3.3KOHM+-5% 0.1W
R0225	0103845	CHIP RESISTOR 1.5KOHM+-5% 0.1W
R0226	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R0227	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R0228	0103857	CHIP RESISTOR 15KOHM+-5% 0.1W
R0229	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R0230	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R0231	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0232	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0234	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R0235	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R0236	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0237	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R0238	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W
R0239	0103845	CHIP RESISTOR 1.5KOHM+-5% 0.1W
R0240	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R0242	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0244	0103860	CHIP RESISTOR 27KOHM+-5% 0.1W
R0245	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R0246	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R0247	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0248	0103865	CHIP RESISTOR 68KOHM+-5% 0.1W
R0249	0700048	CARBON FILM 3.9KOHM+-5% 1/8W
R0250	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R0251	0103858	CHIP RESISTOR 18KOHM+-5% 0.1W
R0252	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0253	0103833	CHIP RESISTOR 150 OHM+-5% 0.1W
R0254	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R0256	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0257	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0258	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0259	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0260	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R0261	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0262	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0263	0103840	CHIP RESISTOR 560 OHM+-5% 0.1W
R0264	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0265	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W
R0266	0103857	CHIP RESISTOR 15KOHM+-5% 0.1W
R0267	0103857	CHIP RESISTOR 15KOHM+-5% 0.1W
R0268	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0269	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0270	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R0271	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0272	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0278	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R0279	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0280	0103836	CHIP RESISTOR 270 OHM+-5% 0.1W
R0281	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R0282	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R0283	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0284	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R0285	0103836	CHIP RESISTOR 270 OHM+-5% 0.1W
R0286	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R0287	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R0288	0103857	CHIP RESISTOR 15KOHM+-5% 0.1W
R0289	0103831	CHIP RESISTOR 100 OHM+-5% 0.1W
R0290	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R0291	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R0292	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R0293	0103857	CHIP RESISTOR 15KOHM+-5% 0.1W
R0294	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0296	0103846	CHIP RESISTOR 1.8KOHM+-5% 0.1W
R0297	0700036	CARBON FILM 470 OHM+-5% 1/8W
R0298	0103853	CHIP RESISTOR 6.8KOHM+-5% 0.1W
R1201	0700032	CARBON FILM 220 OHM+-5% 1/8W
R1202	0103839	CHIP RESISTOR 470OHM+-5% 0.1W
R1203	0103845	CHIP RESISTOR 1.5KOHM+-5% 0.1W
R1205	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R1206	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R1207	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1208	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R1209	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W
R1210	0103860	CHIP RESISTOR 27KOHM+-5% 0.1W
R1211	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R1212	0103848	CHIP RESISTOR 2.7KOHM+-5% 0.1W
R1213	0103834	CHIP RESISTOR 180OHM+-5% 0.1W
R1215	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R1216	01038253	CHIP RESISTOR 33OHM+-5% 0.1W
R1217	0103846	CHIP RESISTOR 1.8KOHM+-5% 0.1W
R1218	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1219	0103837	CHIP RESISTOR 330 OHM+-5% 0.1W
R1220	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1221	01038813	CHIP RESISTOR 2.2MOHM+-10% 0.1W
R1251	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R1252	0700038	CARBON FILM 680OHM+-5% 1/8W
R1253	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R1254	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W
R1255	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R1256	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1301	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R1302	0103839	CHIP RESISTOR 470OHM+-5% 0.1W
R1303	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1304	0103832	CHIP RESISTOR 120OHM+-5% 0.1W
R1305	0103845	CHIP RESISTOR 1.5KOHM+-5% 0.1W
R1306	0103865	CHIP RESISTOR 68KOHM+-5% 0.1W
R1307	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1308	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1309	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R1310	0103853	CHIP RESISTOR 6.8KOHM+-5% 0.1W
R1311	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R1312	0103853	CHIP RESISTOR 6.8KOHM+-5% 0.1W
R1313	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1314	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1315	0103830	CHIP RESISTOR 82OHM+-5% 0.1W
R1316	0103840	CHIP RESISTOR 560 OHM+-5% 0.1W
R1317	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1318	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1319	0103839	CHIP RESISTOR 470OHM+-5% 0.1W
R1320	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R1401	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1404	0103832	CHIP RESISTOR 120OHM+-5% 0.1W
R1405	0103858	CHIP RESISTOR 18KOHM+-5% 0.1W
R1406	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1408	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W
R1409	0103845	CHIP RESISTOR 1.5KOHM+-5% 0.1W
R1411	0103853	CHIP RESISTOR 6.8KOHM+-5% 0.1W
R1412	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1413	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W
R1499	0103845	CHIP RESISTOR 1.5KOHM+-5% 0.1W
R1701	0700032	CARBON FILM 220 OHM+-5% 1/8W
R1702	0700037	CARBON FILM 560OHM+-5% 1/8W
R1703	0700037	CARBON FILM 560OHM+-5% 1/8W
R1704	0700033	CARBON FILM 270OHM+-5% 1/8W
R1705	0700033	CARBON FILM 270OHM+-5% 1/8W
R1706	0700033	CARBON FILM 270OHM+-5% 1/8W
R1707	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R1708	0700041	CARBON FILM 1.0KOHM+-5% 1/8W

SYMBOL-NO	P-NO	DESCRIPTION
R1801	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1802	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R1803	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W
R1804	0103860	CHIP RESISTOR 27KOHM+-5% 0.1W
R1805	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R1806	0103854	CHIP RESISTOR 8.2KOHM+-5% 0.1W
R1807	0103849	CHIP RESISTOR 3.3KOHM+-5% 0.1W
R1808	0103849	CHIP RESISTOR 3.3KOHM+-5% 0.1W
R1811	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R1812	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R1814	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R1815	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R1816	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R1817	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R1851	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R1852	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R1853	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R1854	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R1855	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R1858	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R1859	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W
R1860	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W
R1861	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W
R1862	0103854	CHIP RESISTOR 8.2KOHM+-5% 0.1W
R1863	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1864	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1865	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1867	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R1868	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R1869	0103864	CHIP RESISTOR 56KOHM+-5% 0.1W
R1881	0103857	CHIP RESISTOR 15KOHM+-5% 0.1W
R1882	0103857	CHIP RESISTOR 15KOHM+-5% 0.1W
R1887	0103857	CHIP RESISTOR 15KOHM+-5% 0.1W
R1888	0103857	CHIP RESISTOR 15KOHM+-5% 0.1W
R2296	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R2297	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R2298	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R2299	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R2301	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W
R2302	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R2303	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R2304	01038303	CHIP RESISTOR 820HM+-5% 0.1W
R2305	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R2306	0103869	CHIP RESISTOR 150KOHM+-5% 0.1W
R2307	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R2308	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R2309	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R2310	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R2311	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R2312	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R2313	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W
R2314	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R2315	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R2318	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R2319	0103839	CHIP RESISTOR 4700HM+-5% 0.1W
R2320	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R2321	0101868	CARBON FILM 4.7MOHM+-5% 1/4W
R2322	0101868	CARBON FILM 4.7MOHM+-5% 1/4W
R2502L	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W
R2502R	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W
R2521	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R2522	0103832	CHIP RESISTOR 1200HM+-5% 0.1W
R2523	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R2524	0700045	CARBON FILM 2.2KOHM+-5% 1/8W
R2525	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W

SYMBOL-NO	P-NO	DESCRIPTION
R2526	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R2527	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R2528	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R2531	0103832	CHIP RESISTOR 1200HM+-5% 0.1W
R2532	0103872	CHIP RESISTOR 270KOHM+-5% 0.1W
R2533	0103874	CHIP RESISTOR 390KOHM+-5% 0.1W
R2539	0101838	CARBON FILM 2.7KOHM+-5% 1/4W
R2540N	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R2540P	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R2544	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W
R2545	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W
R2548	0700067	CARBON FILM 100KOHM+-5% 1/8W
R2550	0103857	CHIP RESISTOR 15KOHM+-5% 0.1W
R3201	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W
R3202	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R3203	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R3204	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R3205	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R3206	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R3207	0103857	CHIP RESISTOR 15KOHM+-5% 0.1W
R3208	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R3209	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R3210	0103875	CHIP RESISTOR 470KOHM+-5% 0.1W
R3211	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R3212	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R3213	0700049	CARBON FILM 4.7KOHM+-5% 1/8W
R3214	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R3215	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R401	0103819	CHIP RESISTOR 10 OHM+-5% 0.1W
R402	0103819	CHIP RESISTOR 10 OHM+-5% 0.1W
R404	0103860	CHIP RESISTOR 27KOHM+-5% 0.1W
R405	0103840	CHIP RESISTOR 560 OHM+-5% 0.1W
R406	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R407	0103858	CHIP RESISTOR 18KOHM+-5% 0.1W
R408	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R409	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R410	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R412	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R414	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W
R415	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R416	01038343	CHIP RESISTOR 1800HM+-5% 0.1W
R417	0103860	CHIP RESISTOR 27KOHM+-5% 0.1W
R419	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R420	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R422	0103845	CHIP RESISTOR 1.5KOHM+-5% 0.1W
R424	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R425	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R435	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R437	0103836	CHIP RESISTOR 270 OHM+-5% 0.1W
R438	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W(SSJ)
R438	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W(HEA)
R439	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R440	0103858	CHIP RESISTOR 18KOHM+-5% 0.1W
R441	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R4501	1109023	METAL FILM 75 OHM+-50% 1/8W
R4502	1109023	METAL FILM 75 OHM+-50% 1/8W
R4503	0700033	CARBON FILM 2700HM+-5% 1/8W
R471LR	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R480	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R481L	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R481R	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R482LR	0103846	CHIP RESISTOR 1.8KOHM+-5% 0.1W
R486LR	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R487LR	0103854	CHIP RESISTOR 8.2KOHM+-5% 0.1W
R488LR	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W

SYMBOL-NO	P-NO	DESCRIPTION
R490	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R491	0103860	CHIP RESISTOR 27KOHM+-5% 0.1W
R492	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R493	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R494	0700054	CARBON FILM 10KOHM+-5% 1/8W
R495	0103839	CHIP RESISTOR 470OHM+-5% 0.1W
R501L	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R501R	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R502L	0103839	CHIP RESISTOR 470OHM+-5% 0.1W
R502R	0103839	CHIP RESISTOR 470OHM+-5% 0.1W
R503L	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R503R	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R504	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R505L	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R505R	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R506L	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R506R	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R507L	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R507R	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R508L	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R508R	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R509L	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R509R	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R511	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R512	0103831	CHIP RESISTOR 100 OHM+-5% 0.1W
R513	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R514L	0104271	CHIP RESISTOR 15KOHM+-1% 1/10W
R514R	0104124	CHIP RESISTOR 12KOHM+-1% 1/10W
R515L	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R515R	0103849	CHIP RESISTOR 3.3KOHM+-5% 0.1W
R516	01038743	CHIP RESISTOR 390KOHM+-5% 0.1W
R518	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R523	01038703	CHIP RESISTOR 180KOHM+-5% 0.1W
R524	01038733	CHIP RESISTOR 330KOHM+-5% 0.1W
R525	0103848	CHIP RESISTOR 2.7KOHM+-5% 0.1W
R530L	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R530R	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R531L	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R531R	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R532L	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R532R	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R533L	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R533R	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R537	0104123	CHIP RESISTOR 8.2KOHM+-1% 1/10W
R538	0104271	CHIP RESISTOR 15KOHM+-1% 1/10W
R539	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R540	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R547	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R551	0104117	CHIP RESISTOR 82KOHM 1/10W
R556	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R558	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R601	0103840	CHIP RESISTOR 560 OHM+-5% 0.1W
R602	0103840	CHIP RESISTOR 560 OHM+-5% 0.1W
R603	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R604	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W
R605	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R606	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R607	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R608	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R612	0700045	CARBON FILM 2.2KOHM+-5% 1/8W
R613	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R614	0103872	CHIP RESISTOR 270KOHM+-5% 0.1W
R615	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R616	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R617	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R618	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R619	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R620	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R621	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R622	01038683	CHIP RESISTOR 120KOHM+-5% 0.1W
R623	0103865	CHIP RESISTOR 68KOHM+-5% 0.1W
R624	0103858	CHIP RESISTOR 18KOHM+-5% 0.1W
R625	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W
R626	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R627	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R628	0103865	CHIP RESISTOR 68KOHM+-5% 0.1W
R629	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R630	0103857	CHIP RESISTOR 15KOHM+-5% 0.1W
R631	0103854	CHIP RESISTOR 8.2KOHM+-5% 0.1W
R632	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R633	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W
R634	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R636	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R637	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R638	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R639	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R640	0103878	CHIP RESISTOR 820KOHM+-5% 0.1W
R641	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R642	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R643	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R644	0700049	CARBON FILM 4.7KOHM+-5% 1/8W
R650	0103858	CHIP RESISTOR 18KOHM+-5% 0.1W
R651	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R652	0103846	CHIP RESISTOR 1.8KOHM+-5% 0.1W
R653	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R654	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R655	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R656	0103848	CHIP RESISTOR 2.7KOHM+-5% 0.1W
R657	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R658	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R660	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R661	0103876	CHIP RESISTOR 560KOHM+-5% 0.1W
R662	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R663	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R664	0103848	CHIP RESISTOR 2.7KOHM+-5% 0.1W
R665	0103839	CHIP RESISTOR 470OHM+-5% 0.1W
R668	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R669	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R670	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R671	0103839	CHIP RESISTOR 470OHM+-5% 0.1W
R672	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R673	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R702	0101718	RESISTOR 75OHM+-5% 1/6W
R703	0700054	CARBON FILM 10KOHM+-5% 1/8W
R704	0700037	CARBON FILM 560OHM+-5% 1/8W
R705	0700037	CARBON FILM 560OHM+-5% 1/8W
R706	0700034	CARBON FILM 330OHM+-5% 1/8W
R707	0700064	CARBON FILM 56KOHM+-5% 1/8W
R708	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R709	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R710	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R711	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R712	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R713	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R714	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R715	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R716	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R717	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R718	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R730	0700041	CARBON FILM 1.0KOHM+-5% 1/8W

SYMBOL-NO	P-NO	DESCRIPTION
R731	0700054	CARBON FILM 10KOHM+-5% 1/8W
R732	0700063	CARBON FILM 47KOHM+-5% 1/8W
R733	0700063	CARBON FILM 47KOHM+-5% 1/8W
R734	0700063	CARBON FILM 47KOHM+-5% 1/8W
R735	0700063	CARBON FILM 47KOHM+-5% 1/8W
R901	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R902	0103854	CHIP RESISTOR 8.2KOHM+-5% 0.1W
R903	0700035	CARBON FILM 390OHM+-5% 1/8W
R904	0700037	CARBON FILM 560OHM+-5% 1/8W
R905	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R906	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R907	0700028	CARBON FILM 120OHM+-5% 1/8W
R908	0700037	CARBON FILM 560OHM+-5% 1/8W
R909	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R910	01038323	CHIP RESISTOR 120OHM+-5% 0.1W
R911	0103836	CHIP RESISTOR 270 OHM+-5% 0.1W
R912	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R913	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R916	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R917	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R918	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R919	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R920	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R921	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R922	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R923	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R924	0700037	CARBON FILM 560OHM+-5% 1/8W
R925	0700035	CARBON FILM 390OHM+-5% 1/8W
R926	0700033	CARBON FILM 270OHM+-5% 1/8W
R927	0700033	CARBON FILM 270OHM+-5% 1/8W
R928	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R929	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R930	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R931	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R933	0700067	CARBON FILM 100KOHM+-5% 1/8W
R934	0700054	CARBON FILM 10KOHM+-5% 1/8W
R935	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R936	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R937	0700034	CARBON FILM 330OHM+-5% 1/8W
R938	0103837	CHIP RESISTOR 330 OHM+-5% 0.1W
R939	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R940	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R941	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R942	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R943	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R944	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R945	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R946	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R947	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R951	0700063	CARBON FILM 47KOHM+-5% 1/8W
R952	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R953	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R954	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W
R955	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R956	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W
R957	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R958	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R959	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R960	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R961	0103831	CHIP RESISTOR 100 OHM+-5% 0.1W
R963	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R964	0700062	CARBON FILM 39KOHM+-5% 1/8W
R965	0700062	CARBON FILM 39KOHM+-5% 1/8W
R966	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R967	0700049	CARBON FILM 4.7KOHM+-5% 1/8W

SYMBOL-NO	P-NO	DESCRIPTION
R968	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R969	0700049	CARBON FILM 4.7KOHM+-5% 1/8W
R970	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R971	0700062	CARBON FILM 39KOHM+-5% 1/8W
R972	0700062	CARBON FILM 39KOHM+-5% 1/8W
R973	0101824	CARBON FILM 180 OHM+-5% 1/4W
R974	0101823	CARBON FILM 150OHM+-5% 1/4W
R975	0700067	CARBON FILM 100KOHM+-5% 1/8W
R976	0101711	FUSE RESISTOR 2.2OHM+-5% 1/4W
R977	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R978	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R979	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R980	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W
R981	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R982	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R983	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R984	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R985	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R986	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R987	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R988	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R989	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R990	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R991	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R992	0103858	CHIP RESISTOR 18KOHM+-5% 0.1W
R993	0103849	CHIP RESISTOR 3.3KOHM+-5% 0.1W
R994	0103849	CHIP RESISTOR 3.3KOHM+-5% 0.1W
R996	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R998	0700033	CARBON FILM 270OHM+-5% 1/8W
R999	0700027	CARBON FILM 100 OHM+-5% 1/8W
RT0201	5030084	TRIMMER 1KOHM
RT1201	5030084	TRIMMER 1KOHM
RT1301	5030084	TRIMMER 1KOHM
RT1801	5030088	TRIMMER 22KOHM
RT1802	5030087	SEMI VARIABLE 10KOHM
RT1851	5006238	SEMI VARIABLE 22KOHM
RT2301	5030083	SEMI VARIABLE 470 OHM
RT401	5035081	TRIMMER RESISTOR
RT501L	5035077	SEMI VARIABLE 10KOHM
RT501R	5035076	TRIMMER 4.7KOHM
RT502L	5035077	SEMI VARIABLE 10KOHM
RT502R	5035077	SEMI VARIABLE 10KOHM
RT601	5030012	SEMI VARIABLE 220KOHM
		SEMI-CONDUCTORS
D0202	5339141	DIODE 1SS270
D0203	5339141	DIODE 1SS270
D0205	5339141	DIODE 1SS270
D0206	5339551	DIODE SS1J4
D0207	5339141	DIODE 1SS270
D0209	5339141	DIODE 1SS270
D0210	5328303	DIODE MA152WK (MU)
D0211	5339141	DIODE 1SS270
D0212	5328303	DIODE MA152WK (MU)
D0214	5339141	DIODE 1SS270
D0215	5339141	DIODE 1SS270
D0217	5328303	DIODE MA152WK (MU)
D1201	5339141	DIODE 1SS270
D1202	5339141	DIODE 1SS270
D1203	5339551	DIODE SS1J4
D1204	5339141	DIODE 1SS270
D1205	5328321	DIODE MA151K (MH)
D1206	5328321	DIODE MA151K (MH)
D1301	5339141	DIODE 1SS270

SYMBOL-NO	P-NO	DESCRIPTION
D1302	5339141	DIODE 1SS270
D1403	5328321	DIODE MA151K (MH)
D1801	5328321	DIODE MA151K (MH)
D1802	5328321	DIODE MA151K (MH)
D1803	5328321	DIODE MA151K (MH)
D1804	5328321	DIODE MA151K (MH)
D1805	5328302	DIODE MA151WA(MN)
D2101	5380933	LED GL451
D2501	5339551	DIODE SS1J4
D2502	5339551	DIODE SS1J4
D2503	5339551	DIODE SS1J4
D3201	5328303	DIODE MA152WK (MU)
D471	5339141	DIODE 1SS270
D474LR	5339141	DIODE 1SS270
D475	5339141	DIODE 1SS270
D476LR	5339141	DIODE 1SS270
D477	5339141	DIODE 1SS270
D478	5339141	DIODE 1SS270
D479	5328321	DIODE MA151K (MH)
D501	5328321	DIODE MA151K (MH)
D601	5339141	DIODE 1SS270
D602	5339141	DIODE 1SS270
D603	5339141	DIODE 1SS270
D605	5339141	DIODE 1SS270
D606	5339141	DIODE 1SS270
D609	5339141	DIODE 1SS270
D610	5328321	DIODE MA151K (MH)
D720	5339551	DIODE SS1J4
D721	5381663	DIODE SLH34VT3
D722	5381661	LED SLH-34MT3
D723	5381663	DIODE SLH34VT3
D903	5339551	DIODE SS1J4
D904	5339551	DIODE SS1J4
D905	5339141	DIODE 1SS270
D906	5339141	DIODE 1SS270
D908	5328321	DIODE MA151K (MH)
IC0201	1374172	MODULE HT7425
IC0203	1346881	IC M52364P
IC1201	1345911	IC TL8828P
IC1202	1350411	IC NJM2235M
IC1301	1346821	IC M51646SP
IC1401	1366721	IC LC74760M8793
IC1701	1396051	IC HD49783FP
IC1801	1340632	IC CXA1519S
IC1802	1365812	IC BA3129F
IC1851	1390771	PWB ASSY HTS7332
IC2101	5327521	PHOTO TRANSISTOR SPI-315-C
IC2102	5327521	PHOTO TRANSISTOR SPI-315-C
IC2202	1350042	IC HA118070FP
IC2301	5366642	IC XRA7025L
IC2303	1352385	IC NJM2903M
IC2501	1341691	IC NJM2234S
IC2503	1351361	IC M5201FP
IC3201	1345891	IC NJM2502L
IC401	5300641	IC BA7755
IC501	1365754	IC AN3961NFBPAA
IC601	1366861	IC HD49781F
IC602	5350601	IC NJM4558D
IC701	1349041	IC UPD16312GB-3B4
IC901	1396062	IC UPD78056-012
IC902	1361212	IC X24C02P
IC903	5300795	IC XRA6209U4
IC904	1340002	IC S-8053ALB
IC905	1354712	IC BU2042F
Q0201	5328796	TRANSISTOR XDC144EK
Q0202	5328796	TRANSISTOR XDC144EK
Q0203	5328796	TRANSISTOR XDC144EK
Q0204	5328971	TRANSISTOR 2SC2412KBRST
Q0205	5328971	TRANSISTOR 2SC2412KBRST
Q0206	5328796	TRANSISTOR XDC144EK
Q0207	5328331	TRANSISTOR 2SB709AR
Q0208	5328971	TRANSISTOR 2SC2412KBRST
Q0209	5328796	TRANSISTOR XDC144EK
Q0210	5328971	TRANSISTOR 2SC2412KBRST
Q0211	5328796	TRANSISTOR XDC144EK
Q0212	5328796	TRANSISTOR XDC144EK
Q0213	5328796	TRANSISTOR XDC144EK
Q0214	5328796	TRANSISTOR XDC144EK
Q0217	5328796	TRANSISTOR XDC144EK
Q0218	5328971	TRANSISTOR 2SC2412KBRST
Q0219	5328796	TRANSISTOR XDC144EK
Q0220	5328797	TRANSISTOR XDA144EK
Q0221	5328796	TRANSISTOR XDC144EK
Q0222	5328971	TRANSISTOR 2SC2412KBRST
Q0223	5328792	TRANSISTOR DTA124K(15)
Q0224	5328971	TRANSISTOR 2SC2412KBRST
Q0225	5328971	TRANSISTOR 2SC2412KBRST
Q0226	5328797	TRANSISTOR XDA144EK
Q0227	5328797	TRANSISTOR XDA144EK
Q0228	5328971	TRANSISTOR 2SC2412KBRST
Q0229	5328971	TRANSISTOR 2SC2412KBRST
Q0230	5328971	TRANSISTOR 2SC2412KBRST
Q0231	5328971	TRANSISTOR 2SC2412KBRST
Q0232	5328971	TRANSISTOR 2SC2412KBRST
Q0234	5328971	TRANSISTOR 2SC2412KBRST
Q0236	5328971	TRANSISTOR 2SC2412KBRST
Q0237	5328796	TRANSISTOR XDC144EK
Q0238	5328792	TRANSISTOR DTA124K(15)
Q0239	5328797	TRANSISTOR XDA144EK
Q0243	5328796	TRANSISTOR XDC144EK
Q0244	5328796	TRANSISTOR XDC144EK
Q0245	5328796	TRANSISTOR XDC144EK
Q1201	5328971	TRANSISTOR 2SC2412KBRST
Q1202	5328971	TRANSISTOR 2SC2412KBRST
Q1203	5328331	TRANSISTOR 2SB709AR
Q1204	5328971	TRANSISTOR 2SC2412KBRST
Q1205	5328331	TRANSISTOR 2SB709AR
Q1206	5328331	TRANSISTOR 2SB709AR
Q1251	5328796	TRANSISTOR XDC144EK
Q1252	5328962	TRANSISTOR 2SA1037K
Q1253	5328796	TRANSISTOR XDC144EK
Q1254	1323081	TRANSISTOR 2SA1036K
Q1301	5328971	TRANSISTOR 2SC2412KBRST
Q1302	5328971	TRANSISTOR 2SC2412KBRST
Q1303	5328971	TRANSISTOR 2SC2412KBRST
Q1312	5328792	TRANSISTOR DTA124K(15)
Q1401	5328962	TRANSISTOR 2SA1037K
Q1402	5328971	TRANSISTOR 2SC2412KBRST
Q1403	5328971	TRANSISTOR 2SC2412KBRST
Q1701	5327075	TRANSISTOR XDC144ES
Q1702	5327075	TRANSISTOR XDC144ES
Q1703	5327075	TRANSISTOR XDC144ES
Q1704	5327075	TRANSISTOR XDC144ES
Q1705	5327075	TRANSISTOR XDC144ES
Q1706	5327075	TRANSISTOR XDC144ES
Q1803	5328797	TRANSISTOR XDA144EK
Q1851	5328796	TRANSISTOR XDC144EK
Q1852	5328796	TRANSISTOR XDC144EK
Q1853	5328796	TRANSISTOR XDC144EK
Q2101	5324661	PHOTO TRANSISTOR PT-483F1H

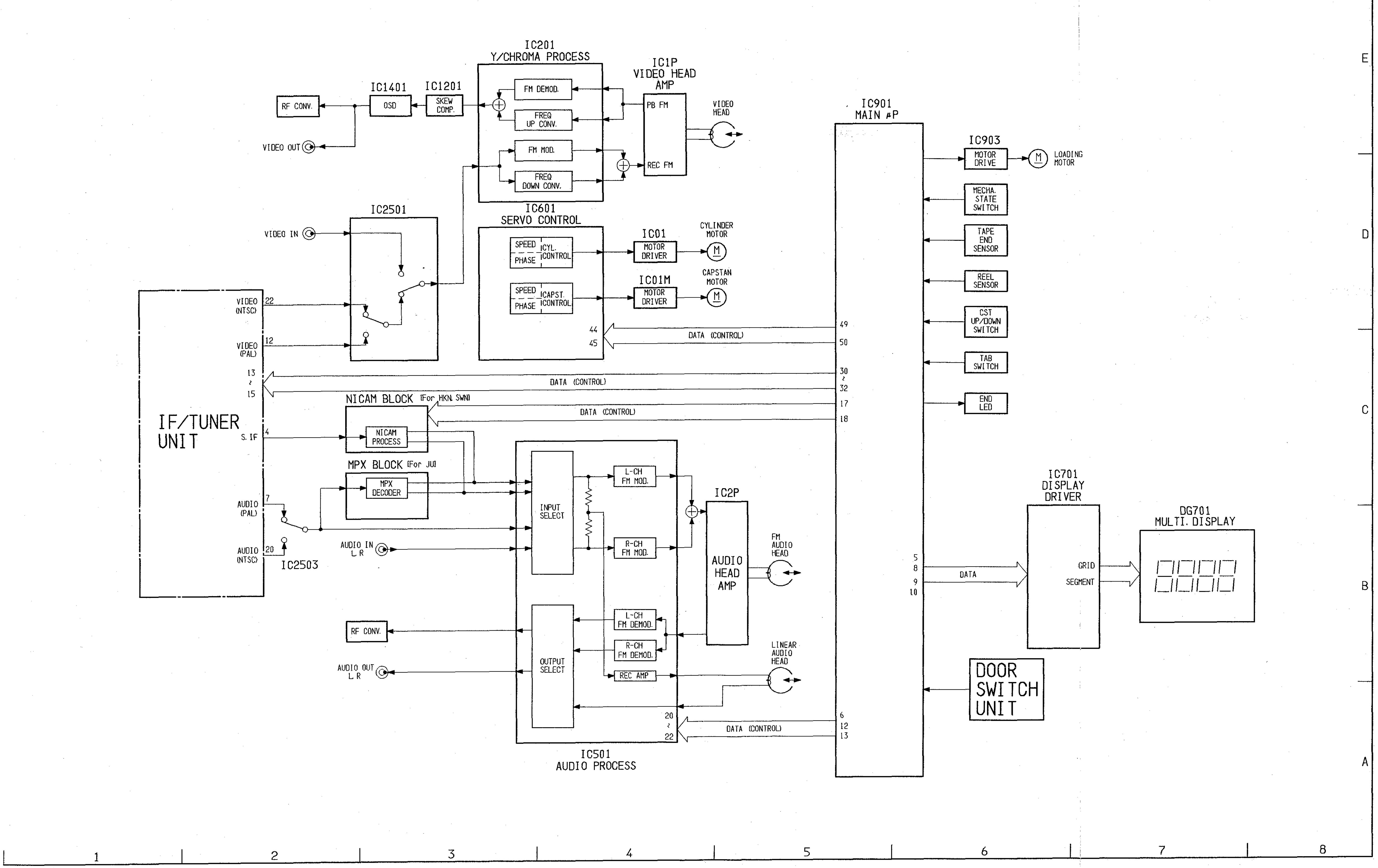
SYMBOL-NO	P-NO	DESCRIPTION
Q2102	5324661	PHOTO TRANSISTOR PT-483F1H
Q2301	5328971	TRANSISTOR 2SC2412KBRST
Q2303	5328971	TRANSISTOR 2SC2412KBRST
Q2304	5328796	TRANSISTOR XDC144EK
Q2501	5328962	TRANSISTOR 2SA1037K
Q2502	5328962	TRANSISTOR 2SA1037K
Q2503	5327091	TRANSISTER 2SD1504E
Q2504	5328796	TRANSISTOR XDC144EK
Q2505	5328797	TRANSISTOR XDA144EK
Q2506	5328796	TRANSISTOR XDC144EK
Q2507	5328796	TRANSISTOR XDC144EK
Q2508	5328797	TRANSISTOR XDC144EK
Q2550	5328796	TRANSISTOR XDC144EK
Q3201	5328796	TRANSISTOR XDC144EK
Q3202	5328971	TRANSISTOR 2SC2412KBRST
Q3203	5328331	TRANSISTOR 2SB709AR
Q3204	5328796	TRANSISTOR XDC144EK
Q401	5327021	TRANSISTOR 2SA844CD
Q402	5327102	TRANSISTOR 2SC3533-BC
Q403	5328971	TRANSISTOR 2SC2412KBRST
Q406	5328796	TRANSISTOR XDC144EK
Q407	5328796	TRANSISTOR XDC144EK
Q408	5328796	TRANSISTOR XDC144EK
Q409	5328796	TRANSISTOR XDC144EK
Q410	5328796	TRANSISTOR XDC144EK(HFA)
Q410	5328797	TRANSISTOR XDA144EK(SSJ)
Q411	5328796	TRANSISTOR XDC144EK
Q412	5328796	TRANSISTOR XDC144EK
Q4501	5324631	TRANSISTOR 2SA1390C
Q471	1323081	TRANSISTOR 2SA1036K
Q472	5328796	TRANSISTOR XDC144EK
Q475L	5328971	TRANSISTOR 2SC2412KBRST
Q475R	5328971	TRANSISTOR 2SC2412KBRST
Q476	5328971	TRANSISTOR 2SC2412KBRST
Q501L	5328971	TRANSISTOR 2SC2412KBRST
Q501R	5328971	TRANSISTOR 2SC2412KBRST
Q502	5328971	TRANSISTOR 2SC2412KBRST
Q505	5328971	TRANSISTOR 2SC2412KBRST
Q510L	5328796	TRANSISTOR XDC144EK
Q510R	5328796	TRANSISTOR XDC144EK
Q511	5328796	TRANSISTOR XDC144EK
Q512	5328796	TRANSISTOR XDC144EK
Q602	5328971	TRANSISTOR 2SC2412KBRST
Q603	5328797	TRANSISTOR XDA144EK
Q605	5328971	TRANSISTOR 2SC2412KBRST
Q606	5327261	TRANSISTOR 2SB1326(Q)
Q607	5328796	TRANSISTOR XDC144EK
Q608	5327261	TRANSISTOR 2SB1326(Q)
Q609	5328796	TRANSISTOR XDC144EK
Q701	5327075	TRANSISTOR XDC144ES
Q702	5327075	TRANSISTOR XDC144ES
Q703	5327075	TRANSISTOR XDC144ES
Q902	5328971	TRANSISTOR 2SC2412KBRST
Q903	5328962	TRANSISTOR 2SA1037K
Q904	5328962	TRANSISTOR 2SA1037K
Q905	5328796	TRANSISTOR XDC144EK
Q906	5328796	TRANSISTOR XDC144EK
Q907	5328797	TRANSISTOR XDA144EK
Q908	5328971	TRANSISTOR 2SC2412KBRST
Q909	5328796	TRANSISTOR XDC144EK
QF601	5721943	IC PROTECTOR
QF602	5721943	IC PROTECTOR
QF603	5721802	IC PROTECTER
TH1201	5340361	THERMISTOR ERTD2FHL
ZD2301	5339251	DIODE HZS2-C3

SYMBOL-NO	P-NO	DESCRIPTION
ZD2503	5339406	DIODE UTZJ30C
ZD601	5339262	DIODE HZS6-C2
ZD602	5339262	DIODE HZS6-C2
ZD701	5339257	DIODE HZS4
ZD902	5339478	DIODE HZA11C
		TRANSFORMER
T401	5261533	TRANSFORMER
		COILS
L0201	0770057	CHOKE COIL 100UH+-5%
L0202	0770057	CHOKE COIL 100UH+-5%
L0203	5159155	CHOKE COIL 120UH+-10%
L0204	5159149	CHOKE COIL 47UH
L0205	5159154	CHOKE COIL 100UH
L0206	5121611	COIL
L0207	5121613	COIL
L0208	5121615	COIL
L0209	5121617	COIL
L0211	5121611	COIL
L0212	5159154	CHOKE COIL 100UH
L0213	5121611	COIL
L0214	5121611	COIL
L0215	5159143	CHOKE COIL 15UH
L0216	5121611	COIL
L0217	5159152	CHOKE COIL 68UH
L0218	5159147	CHOKE COIL 33UH
L0219	5159146	CHOKE COIL 27UH
L0220	5159149	CHOKE COIL 47UH
L1201	0770051	CHOKE COIL 33UH+-5%(SSJ)
L1201	5159149	CHOKE COIL 47UH
L1202	5159149	CHOKE COIL 47UH
L1203	5121611	COIL
L1204	5159146	CHOKE COIL 27UH
L1205	5121581	CHOKE COIL 100UH
L1301	5159155	CHOKE COIL 120UH+-10%
L1302	5121611	COIL
L1303	5159151	CHOKE COIL 56UH
L1304	5121611	COIL
L1305	5159146	CHOKE COIL 27UH
L1401	0770057	CHOKE COIL 100UH+-5%
L1402	5121287	COIL
L1403	5159137	CHOKE COIL 5.6UH+-10%
L1801	0770057	CHOKE COIL 100UH+-5%
L2301	5121611	COIL
L2302	5159147	CHOKE COIL 33UH
L2303	5159147	CHOKE COIL 33UH
L2304	5130431	COIL
L2501	5121294	COIL 100UH
L2503	0770057	CHOKE COIL 100UH+-5%
L2506	5121294	COIL 100UH
L3201	5121611	COIL
L401	0770057	CHOKE COIL 100UH+-5%(HFA)
L401	5121615	COIL(SSJ)
L402	5159111	CHOKE COIL 5600UH
L402	5159152	CHOKE COIL 68UH(SSJ)
L501	0770057	CHOKE COIL 100UH+-5%
L502L	0770057	CHOKE COIL 100UH+-5%
L503	0770057	CHOKE COIL 100UH+-5%
L504	0770064	CHOKE COIL 330UH+-5%
L601	0770057	CHOKE COIL 100UH+-5%
L602	0770057	CHOKE COIL 100UH+-5%
L901	5159138	CHOKE COIL 6.8UH

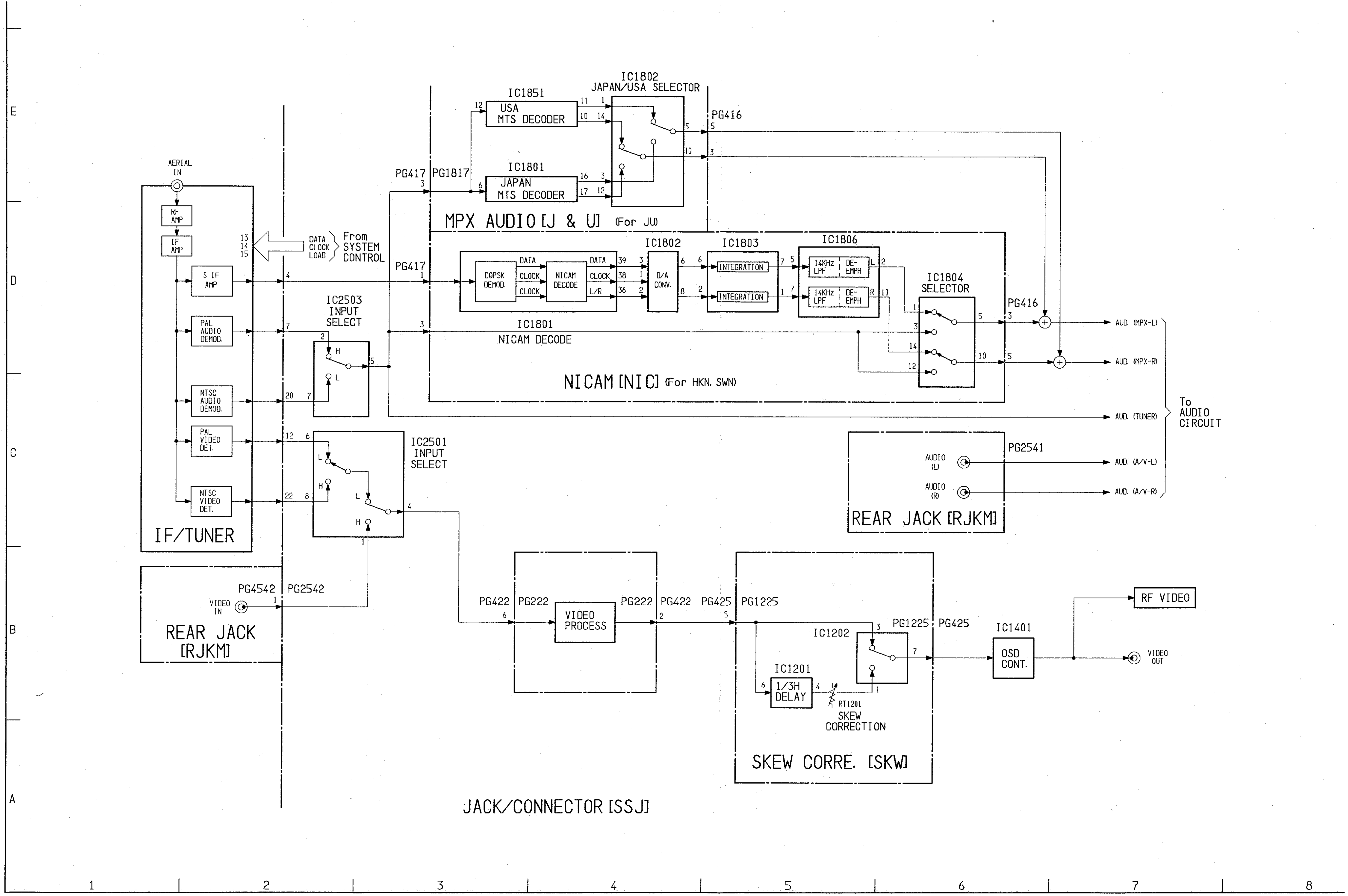
SYMBOL-NO	P-NO	DESCRIPTION
L902	5159142	CHOKE COIL 12UH
		CRYSTALS
X0201	5778881	CRYSTAL
X0202	5778871	CRYSTAL
X0203	5778182	CRYSTAL
X1201	5779071	CRYSTAL
X1401	5779251	CRYSTAL
X1402	5781791	CRYSTAL
X601	5781901	CRYSTAL
X901	5784475	OSCILLATOR
X902	5783003	CRYSTAL
		MISCELLANEOUS
CP1301	5165411	FILTER
CP1302	5165403	FILTER
CP1303	5165412	FILTER
CP1304	5165404	FILTER
CP2201	5165421	LC FILTER
CP2301	5160431	BAND PASS FILTER
DG701	5315404	FLOURESCENT INDICATOR TUBE
DL0201	5786421	DELAY LINE
DL0202	5785491	DLAY LINE
DL0203	5786451	DELAY LINE
IR701	1388911	LIGHT DETECTING UNITGP1U581X
J2501	5676601	JACK
J4501	5696483	PLATE, JACK
LD1701	53810023	LED SLR-34MC5
LD1702	5381001	LED SLR-34URC5
LD1703	5381001	LED SLR-34URC5
LD1704	5381003	LED SLR-34YC5
LD1705	5381003	LED SLR-34YC5
LD1706	5381003	LED SLR-34YC5
S2101	5635631	SWITCH
S2102	5635331	SWITCH
S2104	5610891	SWITCH
S729	5634884	SWITCH
SW701	5621782	SWITCH
SW702	5621782	SWITCH
		PREAMP SECTION
		CAPACITORS
C01	0800186	ELECTROLYTIC 47UF 16V
C02	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C04	0800173	ELECTROLYTIC 0.3UF 50V
C05	0890043	CERAMIC DISC 0.01UF+-20% 16V
C06	0890036	CERAMIC DISC 1500PF+-20% 16V
C07	0890045	CERAMIC DISC 0.047UF+80-20% 50V
C08	0890014	CERAMIC DISC 27PF+-50% 50V
C09	0890043	CERAMIC DISC 0.01UF+-20% 16V
C10	0890016	CERAMIC DISC 39PF+-50% 50V
C11	0800185	ELECTROLYTIC 47UF 6.3V
C12	0890029	CERAMIC DISC 390PF+-10% 50V
C13	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C14	0800185	ELECTROLYTIC 47UF 6.3V
C15	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C16	0800185	ELECTROLYTIC 47UF 6.3V
C17	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C18	0890008	CERAMIC DISC 10PF+-5% 50V
C19	0890046	CERAMIC DISC 0.1UF+80-20% 50V
C20	0890046	CERAMIC DISC 0.1UF+80-20% 50V
C21	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C22	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C23	0890046	CERAMIC DISC 0.1UF+80-20% 50V
C24	0890046	CERAMIC DISC 0.1UF+80-20% 50V
C25	0890014	CERAMIC DISC 27PF+-50% 50V
C26	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C27	0890043	CERAMIC DISC 0.01UF+-20% 16V
C28	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C29	0800185	ELECTROLYTIC 47UF 6.3V
C30	0890013	CERAMIC DISC 22PF+-5% 50V
C31	0800173	ELECTROLYTIC 0.3UF 50V
C32	0890045	CERAMIC DISC 0.047UF+80-20% 50V
C33	0890022	CERAMIC DISC 100PF+-10% 50V
C34	0800175	ELECTROLYTIC 1.0UF 50V
C35	0890043	CERAMIC DISC 0.01UF+-20% 16V
C36	0890013	CERAMIC DISC 22PF+-5% 50V
C37	0890013	CERAMIC DISC 22PF+-5% 50V
C38	0890043	CERAMIC DISC 0.01UF+-20% 16V
C39	0800175	ELECTROLYTIC 1.0UF 50V
C40	0800173	ELECTROLYTIC 0.3UF 50V
C41	0890043	CERAMIC DISC 0.01UF+-20% 16V
C42	0890043	CERAMIC DISC 0.01UF+-20% 16V
C43	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C44	0800185	ELECTROLYTIC 47UF 6.3V
C45	0890043	CERAMIC DISC 0.01UF+-20% 16V
C46	0890043	CERAMIC DISC 0.01UF+-20% 16V
C47	0890027	CERAMIC DISC 270PF+-10% 50V
C48	0890018	CERAMIC DISC 56PF+-50% 50V
C49	0890043	CERAMIC DISC 0.01UF+-20% 16V
C50	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C51	0890043	CERAMIC DISC 0.01UF+-20% 16V
C52	0890046	CERAMIC DISC 0.1UF+80-20% 50V
C53	0800173	ELECTROLYTIC 0.3UF 50V
C59	0890046	CERAMIC DISC 0.1UF+80-20% 50V
C60	0890014	CERAMIC DISC 27PF+-50% 50V
C61	0890014	CERAMIC DISC 27PF+-50% 50V
R01	0700045	CARBON FILM 2.2KOHM+-5% 1/8W
R02	0700037	CARBON FILM 560OHM+-5% 1/8W
R03	0700032	CARBON FILM 220 OHM+-5% 1/8W
R04	0700045	CARBON FILM 2.2KOHM+-5% 1/8W
R05	0700038	CARBON FILM 680OHM+-5% 1/8W
R06	0700027	CARBON FILM 100 OHM+-5% 1/8W
R07	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R09	0700032	CARBON FILM 220 OHM+-5% 1/8W
R10	0700027	CARBON FILM 100 OHM+-5% 1/8W
R11	0700033	CARBON FILM 270OHM+-5% 1/8W
R12	0700023	CARBON FILM 47OHM+-5% 1/8W
R13	0700027	CARBON FILM 100 OHM+-5% 1/8W
R14	0700027	CARBON FILM 100 OHM+-5% 1/8W
R15	0700027	CARBON FILM 100 OHM+-5% 1/8W
R16	0700023	CARBON FILM 47OHM+-5% 1/8W
R17	0700027	CARBON FILM 100 OHM+-5% 1/8W
R18	0700036	CARBON FILM 470 OHM+-5% 1/8W
R19	0700027	CARBON FILM 100 OHM+-5% 1/8W
R20	0700029	CARBON FILM 150 OHM+-5% 1/8W
R21	0700029	CARBON FILM 150 OHM+-5% 1/8W
R22	0700054	CARBON FILM 10KOHM+-5% 1/8W
R23	0700054	CARBON FILM 10KOHM+-5% 1/8W
R24	0700038	CARBON FILM 680OHM+-5% 1/8W
R25	0700049	CARBON. FILM 4.7KOHM+-5% 1/8W
R26	0700061	CARBON FILM 33KOHM+-5% 1/8W
R27	0700058	CARBON FILM 22KOHM+-5% 1/8W
R28	0700039	CARBON FILM 820OHM+-5% 1/8W
R29	0700027	CARBON FILM 100 OHM+-5% 1/8W
R31	0700054	CARBON FILM 10KOHM+-5% 1/8W

SYMBOL-NO	P-NO	DESCRIPTION	SYMBOL-NO	P-NO	DESCRIPTION
R32	0700014	CARBON FILM 10OHM+-5% 1/8W			
R33	0700041	CARBON FILM 1.0KOHM+-5% 1/8W			
R34	0700041	CARBON FILM 1.0KOHM+-5% 1/8W			
R35	0700054	CARBON FILM 10KOHM+-5% 1/8W			
R36	0700054	CARBON FILM 10KOHM+-5% 1/8W			
R37	0700041	CARBON FILM 1.0KOHM+-5% 1/8W			
R38	0700047	CARBON FILM 3.3KOHM+-5% 1/8W			
R39	0700061	CARBON FILM 33KOHM+-5% 1/8W			
R40	0700058	CARBON FILM 22KOHM+-5% 1/8W			
R41	0700067	CARBON FILM 100KOHM+-5% 1/8W			
R42	0700048	CARBON FILM 3.9KOHM+-5% 1/8W			
R43	0700053	CARBON FILM 8.2KOHM+-5% 1/8W			
R44	0700054	CARBON FILM 10KOHM+-5% 1/8W			
R45	0700039	CARBON FILM 820OHM+-5% 1/8W			
R46	0700054	CARBON FILM 10KOHM+-5% 1/8W			
R47	0700037	CARBON FILM 560OHM+-5% 1/8W			
R48	0700041	CARBON FILM 1.0KOHM+-5% 1/8W			
R49	0700045	CARBON FILM 2.2KOHM+-5% 1/8W			
R50	0700063	CARBON FILM 47KOHM+-5% 1/8W			
R51	0700054	CARBON FILM 10KOHM+-5% 1/8W			
R52	0700061	CARBON FILM 33KOHM+-5% 1/8W			
R53	0700063	CARBON FILM 47KOHM+-5% 1/8W			
R62	0700041	CARBON FILM 1.0KOHM+-5% 1/8W			
R63	0700042	CARBON FILM 1.2KOHM+-5% 1/8W			
R64	0700045	CARBON FILM 2.2KOHM+-5% 1/8W			
D01	5339131	DIODE 1SS254			
D02	5339131	DIODE 1SS254			
IC01	1362321	IC HA118162NT			
IC02	1361752	IC XRA7740S			
IC03	1361731	IC BA7047S			
Q01	5327063	TRANSISTOR 2SC1740S			
Q03	5327063	TRANSISTOR 2SC1740S			
Q04	5327063	TRANSISTOR 2SC1740S			
Q05	5327063	TRANSISTOR 2SC1740S			
Q06	5327075	TRANSISTOR XDC144ES			
Q07	5327075	TRANSISTOR XDC144ES			
Q13	5327075	TRANSISTOR XDC144ES			
L01	0770057	CHOKE COIL 100UH+-5%			
L02	5159149	CHOKE COIL 47UH			
L03	5159146	CHOKE COIL 27UH			
L04	0770057	CHOKE COIL 100UH+-5%			
L05	0770057	CHOKE COIL 100UH+-5%			
L06	0770057	CHOKE COIL 100UH+-5%			
L07	5159154	CHOKE COIL 100UH			
L08	5159154	CHOKE COIL 100UH			
L09	0770057	CHOKE COIL 100UH+-5%			
L10	5159148	CHOKE COIL 39UH			
L11	0770057	CHOKE COIL 100UH+-5%			
L12	5159158	CHOKE COIL 220UH			
L15	5159147	CHOKE COIL 33UH			
L16	5159147	CHOKE COIL 33UH			

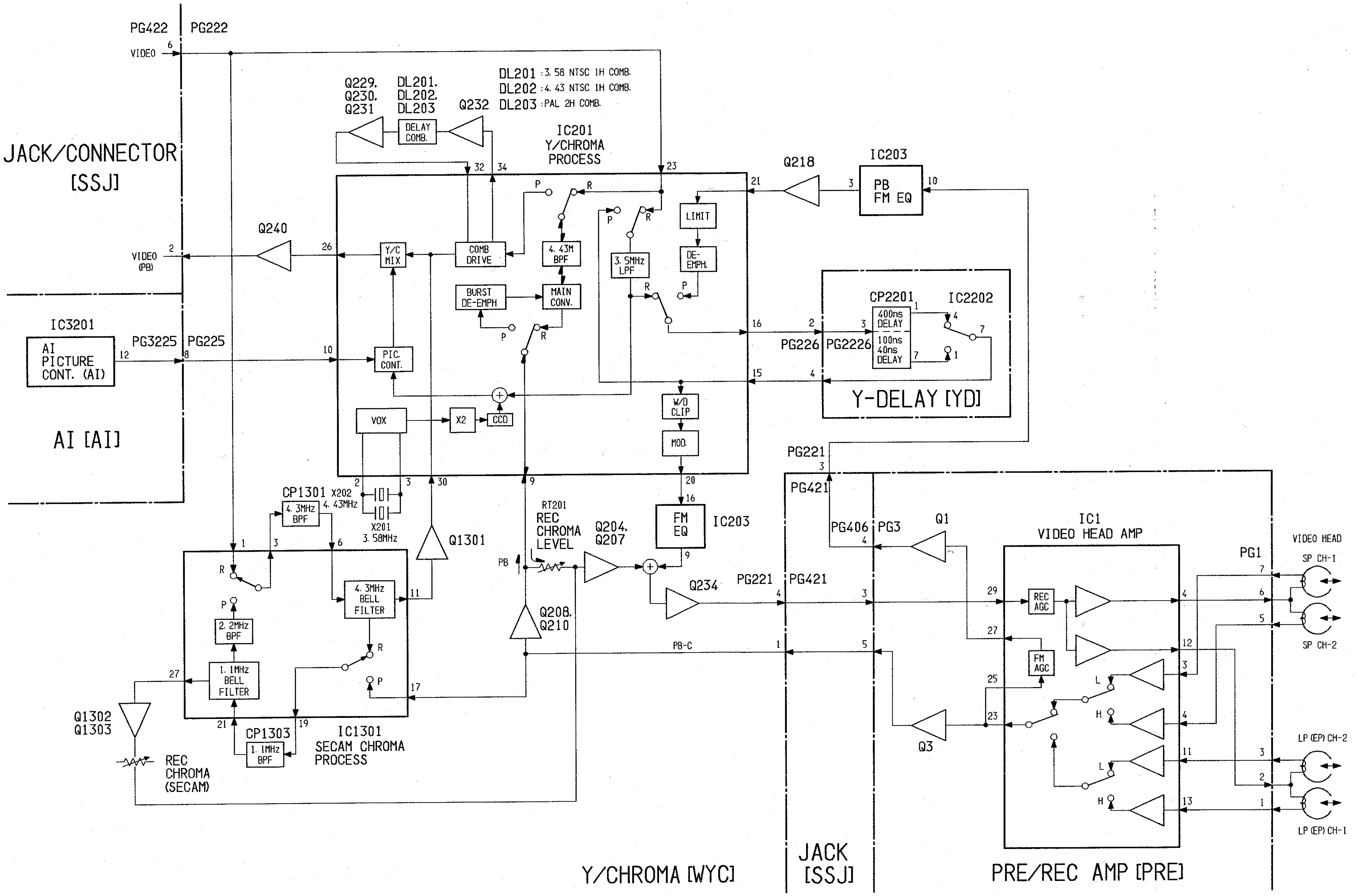
CHAPTER 8
1. BLOCK DIAGRAMS
OVERALL


IC201
Y/CHROMA PROCESS
FM DEMOD.
FREQ UP CONV.
FM MOD.
FREQ DOWN CONV.
IC1P
VIDEO HEAD AMP
PB FM
REC FM
VIDEO HEAD
IC1401
OSD
IC1201
SKEW COMP.
RF CONV.
VIDEO OUT
IC2501
VIDEO IN
IC601
SERVO CONTROL
SPEED
PHASE
CYL. CONTROL
CAPST. CONTROL
IC01
MOTOR DRIVER
CYLINDER MOTOR
IC01M
MOTOR DRIVER
CAPSTAN MOTOR
M
44
45
DATA (CONTROL)
IC901
MAIN µP
49
50
30
32
17
18
5
8
9
10
6
12
13
IC903
MOTOR DRIVE
LOADING MOTOR
MECHA. STATE SWITCH
TAPE END SENSOR
REEL SENSOR
CST UP/DOWN SWITCH
TAB SWITCH
END LED
IF/TUNER UNIT
VIDEO (NTSC)
22
VIDEO (PAL)
12
13
15
4
S. IF
AUDIO (PAL)
7
AUDIO (NTSC)
20
IC2503
NICAM BLOCK (For HKN, SWN)
NICAM PROCESS
MPX BLOCK (For JU)
MPX DECODER
AUDIO IN L R
IC501
AUDIO PROCESS
INPUT SELECT
L-CH FM MOD.
R-CH FM MOD.
OUTPUT SELECT
L-CH FM DEMOD.
R-CH FM DEMOD.
REC AMP
20
22
RF CONV.
AUDIO OUT L R
IC2P
AUDIO HEAD AMP
FM AUDIO HEAD
LINEAR AUDIO HEAD
IC701
DISPLAY DRIVER
GRID
SEGMENT
DATA
DG701
MULTI. DISPLAY
DOOR SWITCH UNIT
A
B
C
D
E
1
2
3
4
5
6
7
8

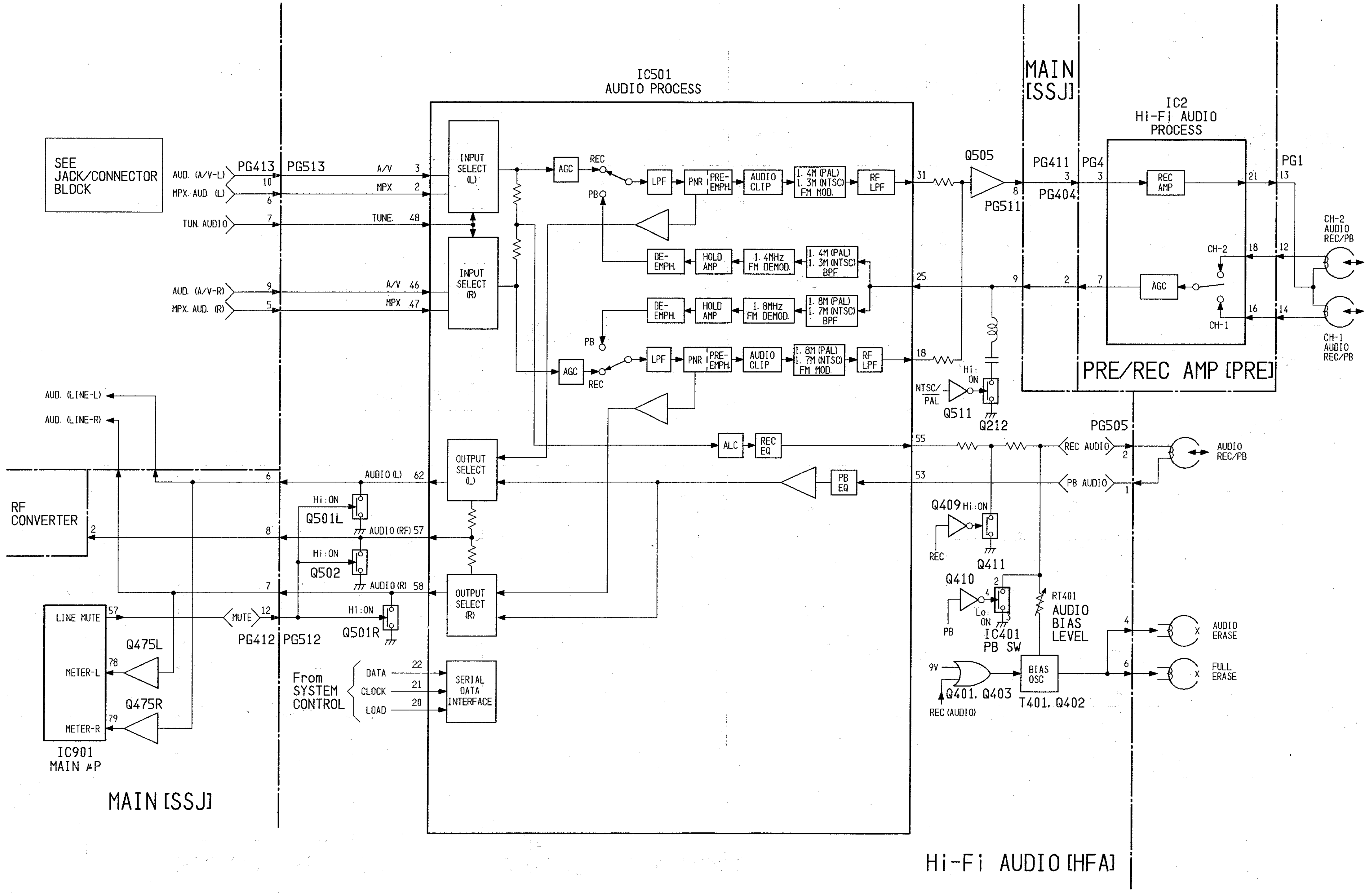
JACK/CONNECTOR


AERIAL IN
RF AMP
IF AMP
S IF AMP
PAL AUDIO DEMOD.
NTSC AUDIO DEMOD.
PAL VIDEO DET.
NTSC VIDEO DET.
IF/TUNER
DATA
CLOCK
LOAD
From SYSTEM CONTROL
IC1851
USA MTS DECODER
IC1801
JAPAN MTS DECODER
IC1802
JAPAN/USA SELECTOR
PG417
PG1817
PG416
MPX AUDIO [J & U] (For JU)
DQPSK DEMOD.
DATA
CLOCK
NICAM DECODE
L/R
IC1802
D/A CONV.
IC1803
INTEGRATION
INTEGRATION
IC1806
14KHz LPF
DE-EMPH
IC1804
SELECTOR
IC1801
NICAM DECODE
NICAM [NIC] (For HKN, SWN)
IC2503
INPUT SELECT
IC2501
INPUT SELECT
AUD. (MPX-L)
AUD. (MPX-R)
AUD. (TUNER)
AUD. (A/V-L)
AUD. (A/V-R)
To AUDIO CIRCUIT
PG2541
AUDIO (L)
AUDIO (R)
REAR JACK [RJKM]
PG4542
PG2542
VIDEO IN
REAR JACK [RJKM]
PG422
PG222
VIDEO PROCESS
PG425
PG1225
IC1202
IC1201
1/3H DELAY
RT1201
SKEW CORRECTION
SKEW CORRE. [SKW]
IC1401
OSD CONT.
RF VIDEO
VIDEO OUT
JACK/CONNECTOR [SSJ]
E
D
C
B
A
1
2
3
4
5
6
7
8

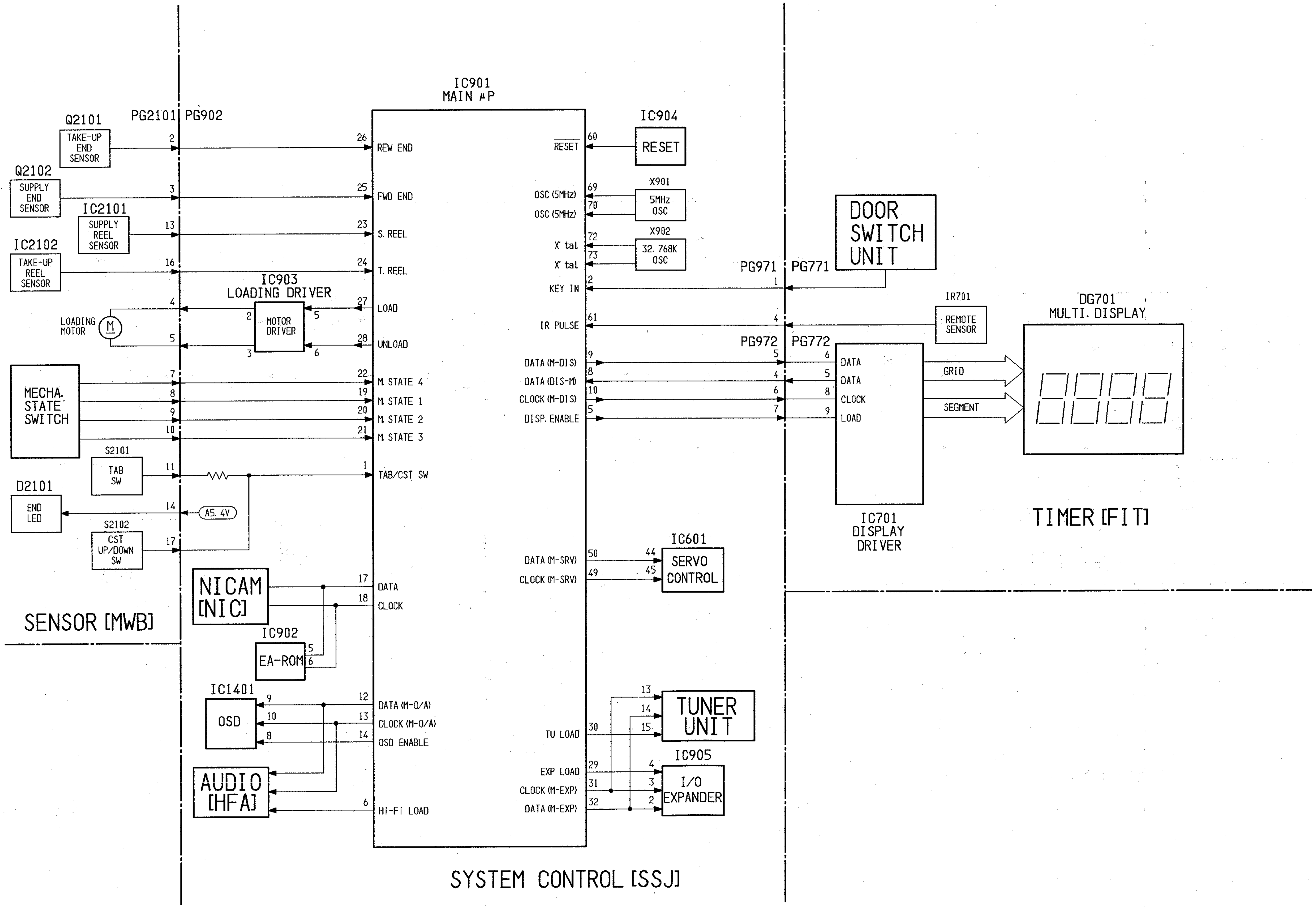
VIDEO

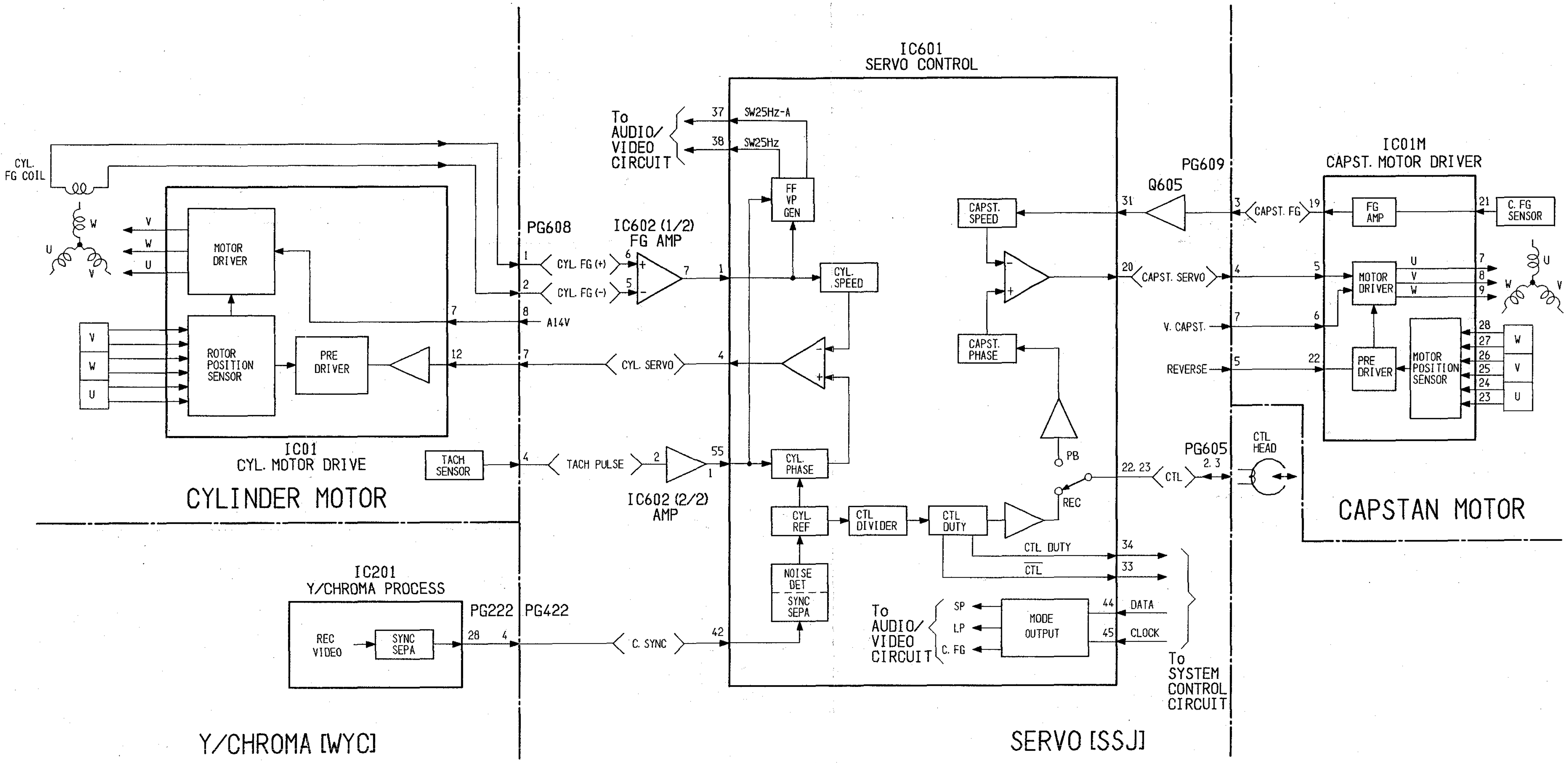

PG422
PG222
VIDEO
6
JACK/CONNECTOR [SSJ]
Q229, Q230, Q231
DL201, DL202, DL203
DELAY COMB.
Q232
DL201 :3.58 NTSC 1H COMB.
DL202 :4.43 NTSC 1H COMB.
DL203 :PAL 2H COMB.
IC201 Y/CHROMA PROCESS
32
34
23
Q240
VIDEO (PB)
2
26
Y/C MIX
COMB DRIVE
P
R
4.43M BPF
3.5MHz LPF
LIMIT
DE-EMPH.
BURST DE-EMPH
MAIN CONV.
PIC. CONT.
VOX
X2
CCD
W/D CLIP
MOD.
21
16
15
Q218
IC203
PB FM EQ
3
10
Y-DELAY [YD]
CP2201
IC2202
400ns DELAY
100ns 40ns DELAY
1
4
7
PG226
PG2226
IC3201
AI PICTURE CONT. (AI)
12
PG3225
PG225
8
10
AI [AI]
PG221
PG421
CP1301
X202 4.43MHz
4.3MHz BPF
X201 3.58MHz
2
3
30
9
20
16
FM EQ
IC203
RT201 REC CHROMA LEVEL
PB
Q204, Q207
Q1301
Q208, Q210
Q234
PB-C
1
5
PG406
PG3
Q1
IC1 VIDEO HEAD AMP
PG1
VIDEO HEAD
SP CH-1
SP CH-2
REC AGC
FM AGC
29
27
25
23
12
11
13
L
H
LP (EP) CH-2
LP (EP) CH-1
Q3
4.3MHz BELL FILTER
2.2MHz BPF
1.1MHz BELL FILTER
1.1MHz BPF
CP1303
17
19
21
27
11
6
IC1301 SECAM CHROMA PROCESS
Q1302 Q1303
REC CHROMA (SECAM)
Y/CHROMA [WYC]
JACK [SSJ]
PRE/REC AMP [PRE]

AUDIO

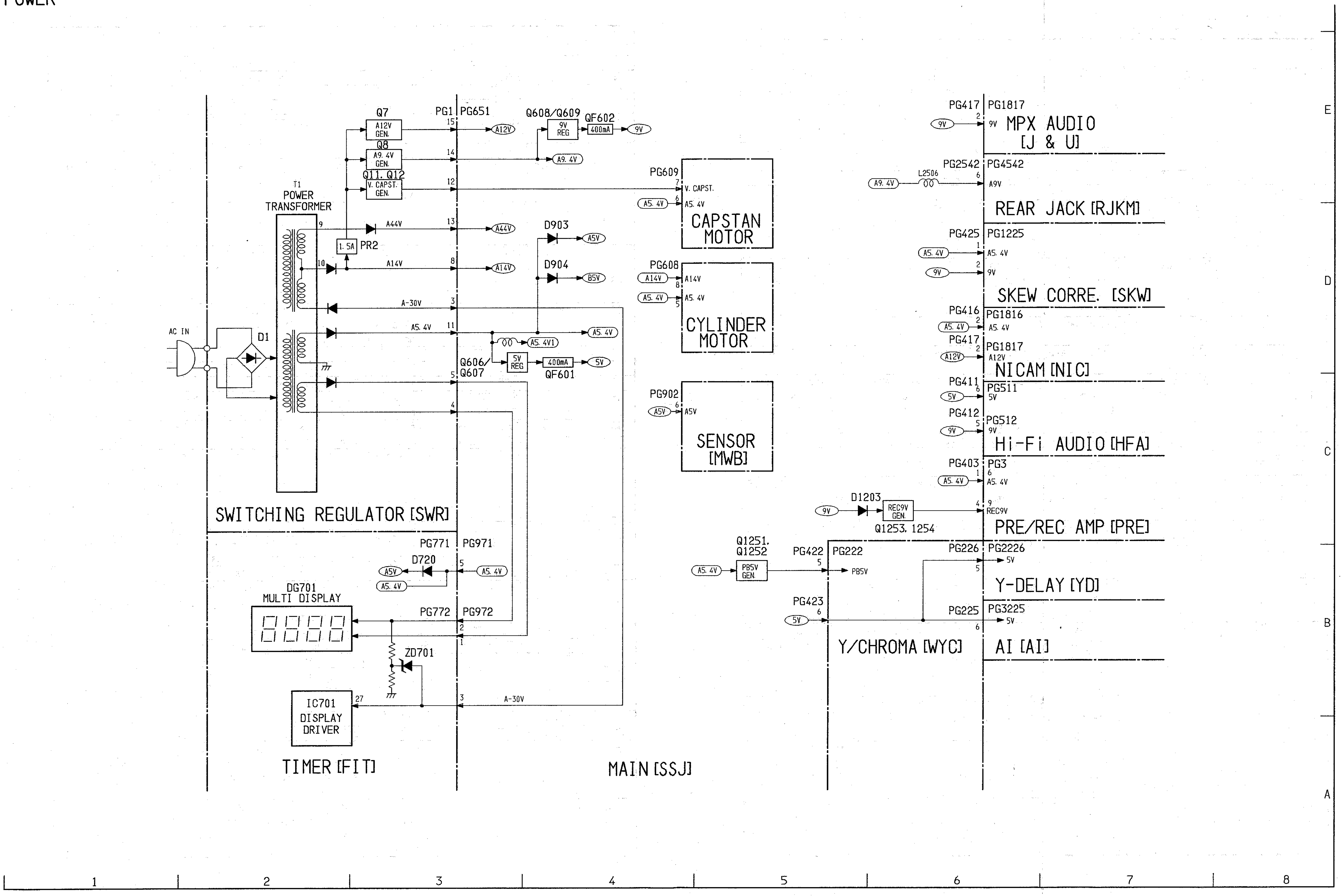

IC501
AUDIO PROCESS
SEE JACK/CONNECTOR BLOCK
AUD. (A/V-L)
MPX. AUD. (L)
TUN. AUDIO
AUD. (A/V-R)
MPX. AUD. (R)
PG413
PG513
A/V
MPX
TUNE.
INPUT SELECT (L)
INPUT SELECT (R)
AGC
REC
PB
LPF
PNR
PRE-EMPH.
AUDIO CLIP
1. 4M (PAL) 1. 3M (NTSC) FM MOD.
RF LPF
DE-EMPH.
HOLD AMP
1. 4MHz FM DEMOD.
1. 4M (PAL) 1. 3M (NTSC) BPF
1. 8MHz FM DEMOD.
1. 8M (PAL) 1. 7M (NTSC) BPF
1. 8M (PAL) 1. 7M (NTSC) FM MOD.
ALC
REC EQ
PB EQ
OUTPUT SELECT (L)
OUTPUT SELECT (R)
SERIAL DATA INTERFACE
From SYSTEM CONTROL
DATA
CLOCK
LOAD
AUDIO (L) 62
AUDIO (RF) 57
AUDIO (R) 58
Hi:ON
Q501L
Q502
Q501R
MUTE
PG412
PG512
AUD. (LINE-L)
AUD. (LINE-R)
RF CONVERTER
LINE MUTE
METER-L
METER-R
IC901
MAIN µP
Q475L
Q475R
MAIN [SSJ]
Q505
PG511
PG411
PG4
PG404
MAIN [SSJ]
IC2
Hi-Fi AUDIO PROCESS
REC AMP
AGC
CH-2
CH-1
PG1
CH-2 AUDIO REC/PB
CH-1 AUDIO REC/PB
PRE/REC AMP [PRE]
NTSC/PAL
Q511
Hi: ON
Q212
PG505
REC AUDIO
PB AUDIO
AUDIO REC/PB
Q409
Q411
Q410
Lo: ON
IC401
PB SW
RT401
AUDIO BIAS LEVEL
9V
Q401, Q403
REC (AUDIO)
BIAS OSC
T401, Q402
AUDIO ERASE
FULL ERASE
Hi-Fi AUDIO [HFA]
E
D
C
B
A
1
2
3
4
5
6
7
8

SYSTEM CONTROL/TIMER


IC901
MAIN µP
Q2101
TAKE-UP END SENSOR
PG2101
PG902
Q2102
SUPPLY END SENSOR
IC2101
SUPPLY REEL SENSOR
IC2102
TAKE-UP REEL SENSOR
IC903
LOADING DRIVER
MOTOR DRIVER
LOADING MOTOR
M
MECHA. STATE SWITCH
S2101
TAB SW
D2101
END LED
A5. 4V
S2102
CST UP/DOWN SW
SENSOR [MWB]
NICAM [NIC]
IC902
EA-ROM
IC1401
OSD
AUDIO [HFA]
REW END
FWD END
S. REEL
T. REEL
LOAD
UNLOAD
M. STATE 4
M. STATE 1
M. STATE 2
M. STATE 3
TAB/CST SW
DATA
CLOCK
DATA (M-O/A)
CLOCK (M-O/A)
OSD ENABLE
Hi-Fi LOAD
RESET
OSC (5MHz)
OSC (5MHz)
X' tal
X' tal
KEY IN
IR PULSE
DATA (M-DIS)
DATA (DIS-M)
CLOCK (M-DIS)
DISP. ENABLE
DATA (M-SRV)
CLOCK (M-SRV)
TU LOAD
EXP LOAD
CLOCK (M-EXP)
DATA (M-EXP)
IC904
RESET
X901
5MHz OSC
X902
32. 768K OSC
IC601
SERVO CONTROL
TUNER UNIT
IC905
I/O EXPANDER
SYSTEM CONTROL [SSJ]
DOOR SWITCH UNIT
PG971
PG771
PG972
PG772
IR701
REMOTE SENSOR
IC701
DISPLAY DRIVER
DATA
DATA
CLOCK
LOAD
GRID
SEGMENT
DG701
MULTI. DISPLAY
TIMER [FIT]
E
D
C
B
A
1
2
3
4
5
6
7
8


CYL.
FG COIL
MOTOR DRIVER
ROTOR POSITION SENSOR
PRE DRIVER
IC01
CYL. MOTOR DRIVE
CYLINDER MOTOR
TACH SENSOR
PG608
IC602 (1/2)
FG AMP
CYL. FG (+)
CYL. FG (-)
A14V
CYL. SERVO
TACH PULSE
IC602 (2/2)
AMP
To
AUDIO/
VIDEO
CIRCUIT
IC601
SERVO CONTROL
SW25Hz-A
SW25Hz
FF
VP
GEN
CYL. SPEED
CYL. PHASE
CYL. REF
CTL DIVIDER
CTL DUTY
NOISE DET
SYNC SEPA
CAPST. SPEED
CAPST. PHASE
PB
REC
CTL DUTY
CTL
SP
LP
C. FG
MODE OUTPUT
DATA
CLOCK
To
SYSTEM
CONTROL
CIRCUIT
IC201
Y/CHROMA PROCESS
REC VIDEO
SYNC SEPA
PG222
PG422
C. SYNC
Y/CHROMA [WYC]
SERVO [SSJ]
PG609
Q605
CAPST. FG
CAPST. SERVO
V. CAPST.
REVERSE
PG605
CTL HEAD
IC01M
CAPST. MOTOR DRIVER
FG AMP
C. FG SENSOR
MOTOR DRIVER
PRE DRIVER
MOTOR POSITION SENSOR
CAPSTAN MOTOR
U
V
W

POWER


AC IN
D1
T1
POWER
TRANSFORMER
1.5A PR2
Q7
A12V GEN.
Q8
A9.4V GEN.
Q11, Q12
V. CAPST. GEN.
9
10
A44V
A14V
A-30V
A5.4V
PG1
PG651
15
14
12
13
8
3
11
5
4
A12V
A9.4V
A44V
A14V
Q608/Q609
9V REG
QF602
400mA
9V
D903
A5V
D904
B5V
A5.4V
A5.4V1
Q606/
Q607
5V REG
400mA
QF601
5V
SWITCHING REGULATOR [SWR]
PG609
7
V. CAPST.
6
A5.4V
CAPSTAN MOTOR
PG608
A14V
8
A5.4V
5
CYLINDER MOTOR
PG902
6
A5V
SENSOR [MWB]
PG771
PG971
D720
A5V
A5.4V
DG701
MULTI DISPLAY
PG772
PG972
2
1
ZD701
IC701
DISPLAY
DRIVER
27
3
A-30V
TIMER [FIT]
MAIN [SSJ]
PG417
PG1817
2
9V
MPX AUDIO
[J & U]
PG2542
PG4542
L2506
6
A9.4V
A9V
REAR JACK [RJKM]
PG425
PG1225
1
A5.4V
2
9V
SKEW CORRE. [SKW]
PG416
PG1816
2
A5.4V
PG417
PG1817
2
A12V
NICAM [NIC]
PG411
PG511
6
5V
PG412
PG512
5
9V
Hi-Fi AUDIO [HFA]
PG403
PG3
1
6
A5.4V
D1203
9V
REC9V GEN.
Q1253, 1254
4
9
REC9V
PRE/REC AMP [PRE]
Q1251,
Q1252
PG422
PG222
A5.4V
PB5V GEN.
5
PB5V
PG423
6
5V
Y/CHROMA [WYC]
PG226
PG2226
5V
5
Y-DELAY [YD]
PG225
PG3225
5V
6
AI [AI]
E
D
C
B
A
1
2
3
4
5
6
7
8

2. MICROPROCESSOR PIN FUNCTION TABLE

Table - MAINμP (IC901) PIN FUNCTIONS

Pin No.	I/O	Active Level	Abbreviation	Function
1	I	A/D	TAB/CST.UP/DN	Detects whether or not the record prevention tab which is located on the cassette is removed with "Mi" and "Lo" levels. With no tab, recording is inhibited or cassette is ejected automatically when the timer recording is set. Detects the cassette holder state with "Hi" and "Lo" levels.
2	I	A/D	KEY IN	Receives one of 16 voltages corresponding to the pressed key on the front panel.
3	I	Hi/Lo	STEREO/$\overline{\text{BIL}}$	Inputs switching control signal. STEREO: Hi, BILINGUAL: Lo
4	I	-	AV$_{SS}$	Not connected.
5	O	Hi	DISP.ENABLE	Enable signal from M-μP to Display driver.
8	I	Pulse	DATA (DIS-M)	These are the data bus lines between the M-μP and Display driver. The data is sent each other synchronized with CLOCK signal.
9	O	Pulse	DATA (M-DIS.)	
10	O	Pulse	CLOCK (M-DIS.)	
6	O	Hi	Hi-Fi LOAD	Selects the data reception IC. A common data line is provided between the M-μP and each IC (AUDIO IC). When sending the data, the M-μP sets the chip select line to active level until the data transfer is completed.
7	I	-	AVREF	Connected to A5V.
75	I	-	AVREF	
11	I	Lo	HIFI IND (L)	During playback mode, H: fix the audio output mode to LINEAR, L: L/R output.
12	O	Pulse	DATA (M-O/A)	These are the common data bus liens between M-μP and each of 2 ICs (OSD and Hi-Fi AUDIO IC). The data is sent to the selected IC synchronized with clock signal after the reception IC is selected by chip select outputs at pins 6 and 14.
13	O	Pulse	CLOCK (M-O/A)	
14	O	Hi	OSD ENABLE	Enable signal from M-μP to OSD.
15	-	-	NC	
16	I	Hi	EDIT IN	Camera pause input "Hi": REC PAUSE mode.
17	O	Pulse	DATA	These are the data bus lines between the M-μP and EAROM/A2/VPS ICs. The data is communicated with these ICs synchronized with CLOCK signal.
18	O	Pulse	CLOCK	
19	I	Hi/LO	M.STATE 1	Detects mechanism state position to control the loading motor. Refer to the Block diagram for the truth table.
20	I	Hi/LO	M.STATE 2	
21	I	Hi/LO	M.STATE 3	
22	I	Hi/LO	M.STATE 4	
23	I	Pulse	S.REEL	Monitors the take-up reel frequency to detect whether or not the slack is rewound to the take-up or supply reel. S. REEL pulse is utilized for remaining time count with T. REEL pulse.
24	I	Pulse	T.REEL	
25	I	Lo	FWD END (L)	Releases the instrument from the commanded mode when "Lo" pulse is applied from the end sensor on the mechanism. Each sensor is responsible for monitoring the ends of tape. In addition both end sensors are also responsible for monitoring that no cassette is present.
26	I	Lo	REW END (R)	
27	O	Hi	LOAD	Controls the loading motor to place the mechanism state in mode corresponding to the commanded mode. Refer to the truth table in block diagram.
28	O	Hi	UNLOAD	
29	O	Hi	EXP LOAD	Selects the data reception IC. A common data line is provided between the M-μP and EXP/TUN. ICs. When sending the data, the μP sets the chip select line to active level until the data transfer is completed.
30	O	Hi	TU LOAD	
31	O	Pulse	CLOCK(M-EXP/TU)	These are the data bus lines between the M-μP and I/O EXPANDER/TUNER ICs. The data is communicated with these ICs synchronized with the CLOCK signal.
32	O	Pulse	DATA (M-EXP/TU)	
33	I	-	V$_{SS}$	Ground
34	O	Pulse	DATA (M-DEC)	This is the data bus line between the M-μP and DEC-μP.
35	O	Hi	REVERSE	Sets the capstan rotation direction to reverse.
36	I	Hi	SEC/$\overline{\text{SEC}}$ DET	Mode selection input. SECAM: Hi.
37	I	Hi/Lo	ME/SEC DET	Mode selection input. MESECAM: Hi, SECAM: Lo.
38	I	Hi	TRACK.TRIG.	Inputs CTL LOCK DET. signal from SERVO IC for auto tracking function.
39	I	-	NO AUDIO	Not used.
40	O	Hi/Mid/Lo	TRN.SRH/FHS	Outputs the head switching signal. "Hi": TRANSIENT/SEARCH mode in SP/Hi-Fi MUTE during REC mode, "Mi": STILL/SLOW mode and LPx±2 speed mode, "Lo": etc. mode.
41	O	Hi/Mid/Lo	CAPST.CONT.	Selects the capstan motor operation mode. "Hi": REEL (voltage control) mode, "Mi (open)": SERVO control mode, "Lo": BRAKE mode.
42	O	Hi/Mid/Lo	CYL.ADJ. 1	Horizontal jitter correction signal in slow mode. 1:H/2:L in SP mode, 1:L/2:H in LP mode. Otherwise both are M (open).
43	O	Hi/Mid/Lo	CYL.ADJ. 2	
44	O	PWM	V.CAPST.	Applies this output to the capstan driver instead of the capstan servo output during slow/still and eject or cassette loading mode (softlanding).
45	O	-	EDIT OUT	Not used.
46	I	Lo	DUTY (L)	INDEX signal input. "Lo" when INDEX signal exists.
47	I	Pulse	C-SYNC	Composite SYNC signal input.
48	I	Pulse	CTL (EVENT)(L)	Inputs CTL pulses in order to process the slow mode.
65	I	Pulse	CTL (COUNT)(L)	Inputs CTL pulses in order to calculate the linear time counter.
49	O	Pulse	CLOCK (S-SRV)	These are the data bus lines between the M-μP and SERVO IC. The data is sent to the SERVO IC synchronized with CLOCK signal.
50	O	Pulse	DATA (S-SRV)	
51	O	Hi	POWER ON	Turns on 9V switch when the internal power switch is turned on. The internal power switch is turned on and off when the power switch is pressed, the cassette is inserted or manlfunctions occur.
52	O	Hi	SKW. CONT.	Not used.
53	O	Hi	REC MUTE	Inhibits supplying the video signal to the video head.
54	O	Hi	CURRENT UP	Outputs "Hi" to increase the video recording level for five seconds after assemble mode is released.
55	O	Hi	PB	Sets the video and audio circuits to play mode.
56	O	Hi	TRICK PLAY	Disables the H correlative noise canceller in the video circuit during search and still. Shifts the peaking frequency of the 4.6MHz peaking circuit in the video circuit to 4.2MHz.
57	O	Hi	LINE MUTE	Mute control of the audio output.
58	O	Hi	REC (AUDIO)	Sets the audio circuit to recording mode.
59	O	Hi	REC (VIDEO)	Controls the REC 9V regulator.
60	I	Lo	RESET (L)	Initializes the μP when the μP is powered.
61	I	Pulse	IR PULSE	Decodes the IR remote code from the IR transmitter and sets the VTR in the commanded mode.
62	I	Pulse	V.SYNC	Vertical SYNC signal input.
63	I	Pulse	CHROMA25Hz	Chrominance 25Hz signal input.
64	I	Pulse	SW25Hz	Monitors the frequency of SW25Hz to detect that the cylinder motor rotates correctly during record and play. The SW25Hz signal is also used to control supplying the video signals to the heads.
66	I	Pulse	CFG	Divided CFG signal. Monitors whether or not the slack is rewound to the supply reel disk during eject. The CFG pulses are also utilized as clock signal to measure the amount of the backspace during record-pause.

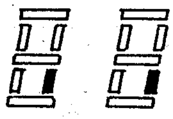
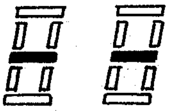
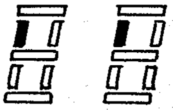
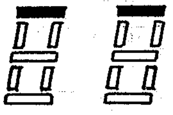
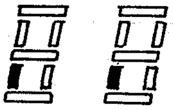
Pin No.	I/O	Active Level	Abbreviation	Function
67	I	Pulse	POWER STOP (L)	AC power frequency signal from the power supply circuit and utilized as a clock pulse for time count and is also used to detect power failure.
68	I	–	V_{DD}	Connected to B5V.
74	I	–	AV_{DD}	
69	I	–	OSCI (5MHz)	Generates a 5MHz clock signal which is utilized as the main system clock signal in modes other than backup mode.
70	I	–	OSCO (5MHz)	
71	-	–	NC	
72	I	–	OSCI (33kHz)	Generates a 32.768kHz clock signal for the timer during backup mode.
73	0	–	OSCO (33kHz)	
76	I	A/D	ENVEL.(AUDIO)	Audio and video envelope level inputs auto tracking.
77	I	A/D	ENVEL.(VIDEO)	
78	I	A/D	METER L	Audio Level Meter input.
79	I	A/D	METER R	
80	I	Hi	S-CURVE	Detects the ATF output applied from the IF unit to tune the station correctly.

3.TROUBLE MODE

CHECK USING THE TROUBLE DISPLAY FUNCTION

This VTR has a function which displays trouble codes referring to the mechanism, etc. in the timer dispaly. Use this function to analyze causes that make the power shut off due to trouble in the mechanism, etc.
The main μP (IC901) detects the type of trouble from the mechanism control system and transfers digital data to the display driver (IC701) so the data is displayed in the channel indicator segments of the dipslay.
Fig. 1 shows how to detect trouble.

[Trouble display]

Trouble	Display (CH indicator)	Trouble	Display (CH indicator)
Abnormal rotation of cylinder motor		Abnormality in loading mechanism	
Abnormal rotation of capstan motor		Abnormality in front loading mechanism	
Abnormal rotation of reel disks			

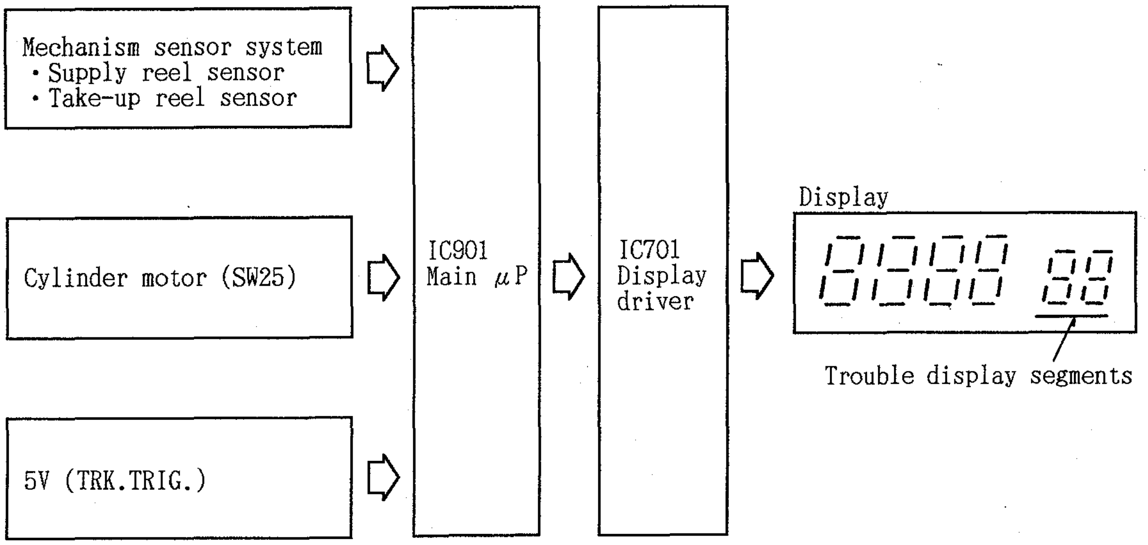

Mechanism sensor system
• Supply reel sensor
• Take-up reel sensor
Cylinder motor (SW25)
5V (TRK.TRIG.)
IC901
Main μP
IC701
Display driver
Display
Trouble display segments

Fig. 1 How to detect trouble

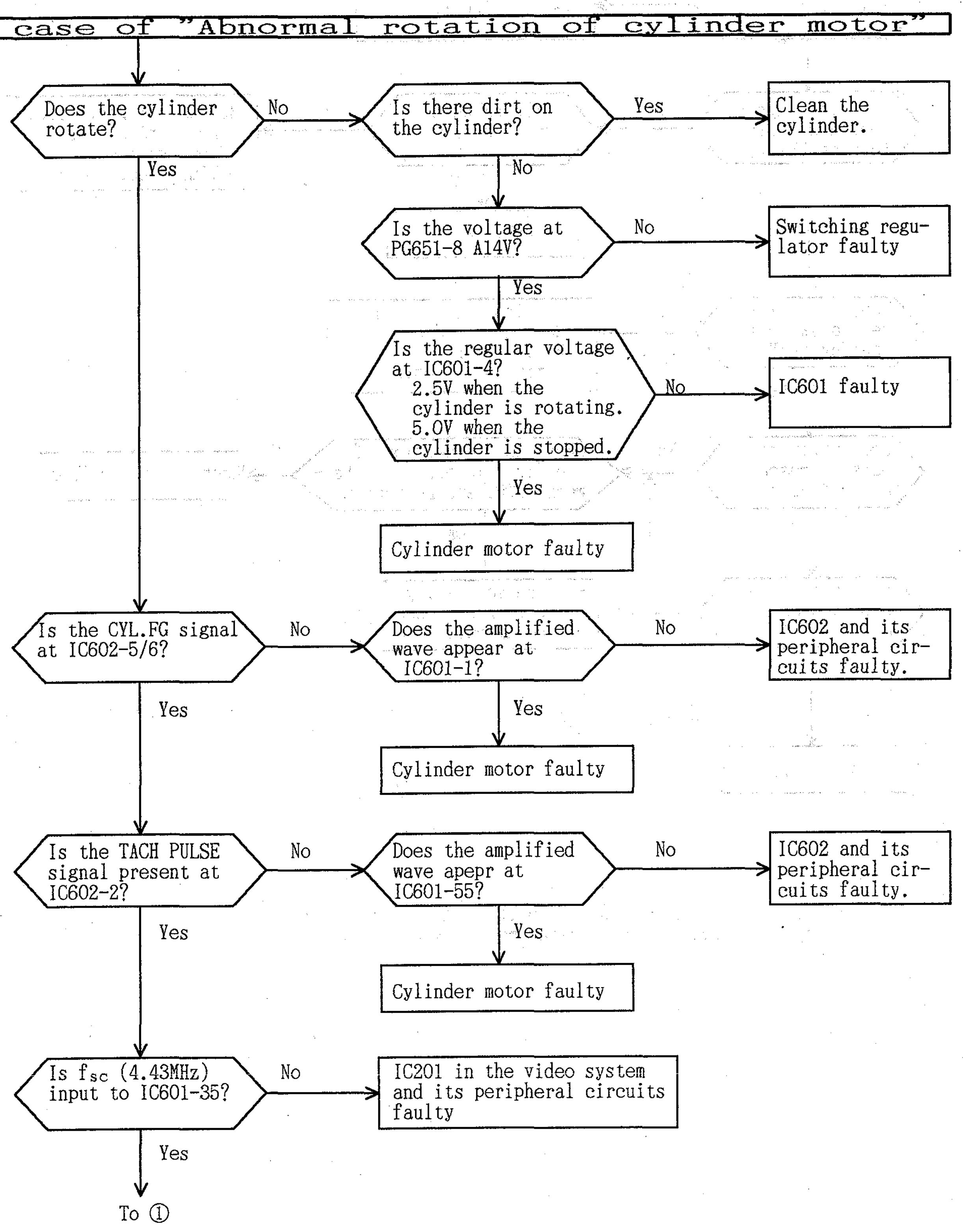
[How to display a trouble]
With the power off, press the CH ▼ button on the VTR and the tracking ▼/▲ buttons of the remote control simultaneously. The trouble information is displayed only when these buttons are held depressed.

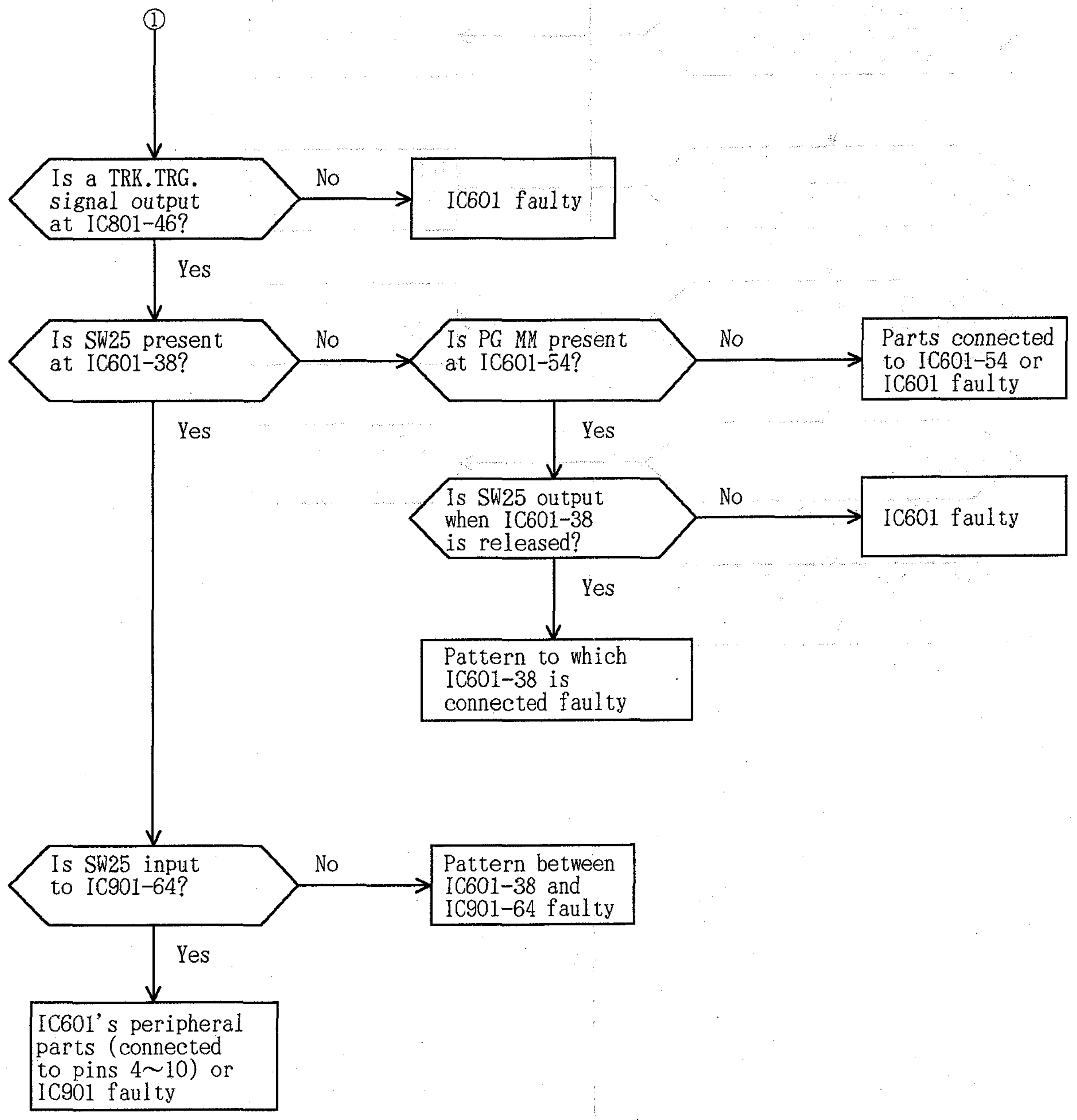
Caution:
Be careful; the trouble display will be cleared if the VTR power is turned on again or the power cord is unplugged.

TROUBLESHOOTING ACCORDING TO TROUBLE DISPLAYS

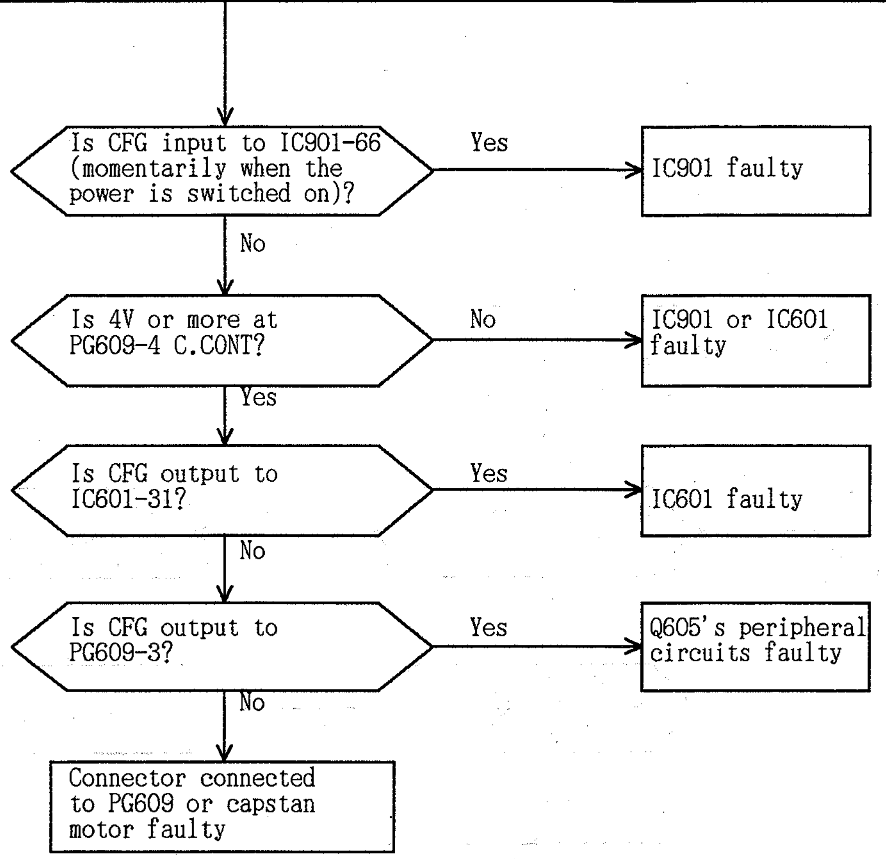
If the trouble display funciton locates a defective position, follow the flowcharts below to locate the trouble.

In case of "Abnormal rotation of cylinder motor"

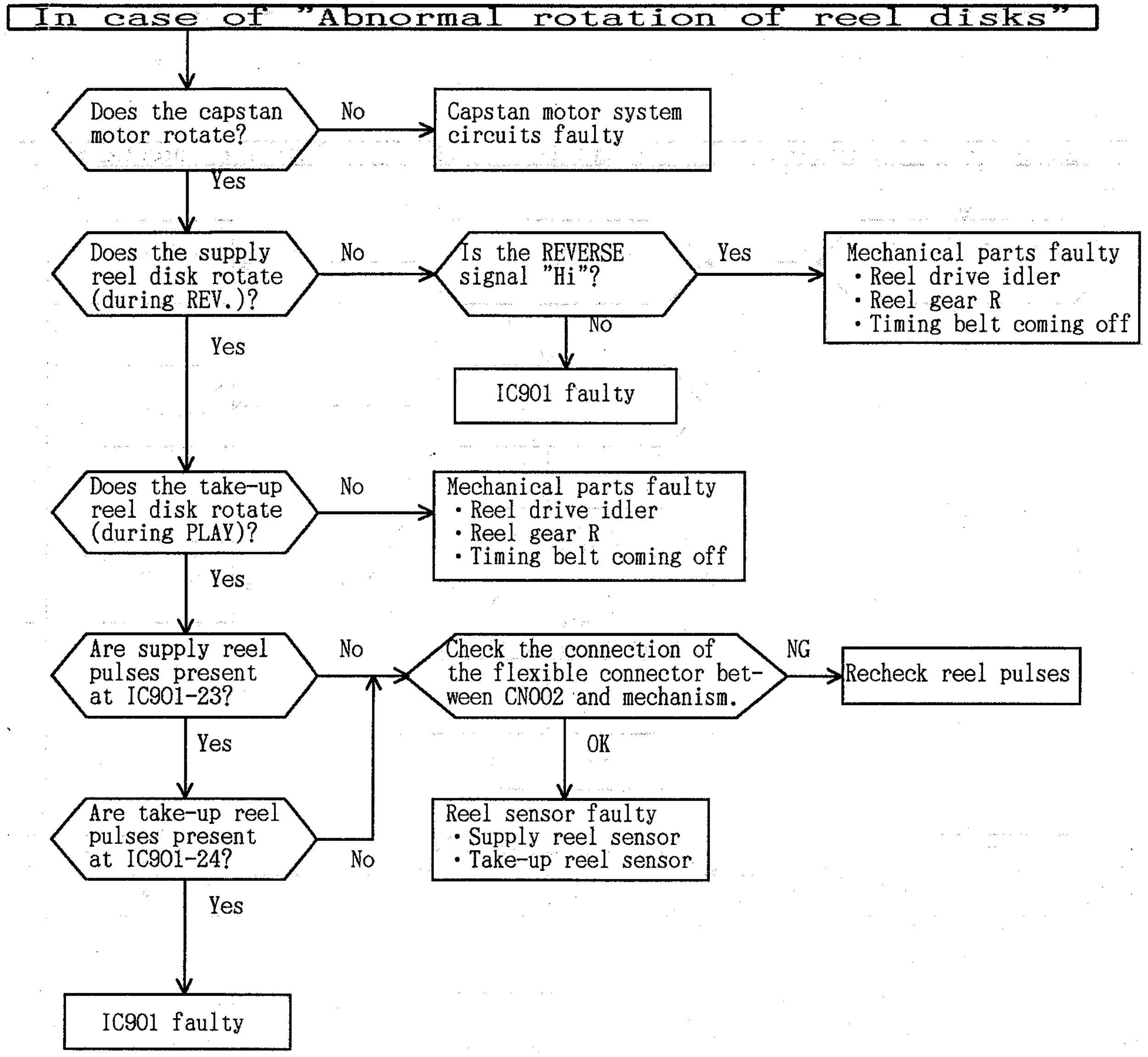

Does the cylinder rotate?
No
Is there dirt on the cylinder?
Yes
Clean the cylinder.
No
Is the voltage at PG651-8 A14V?
No
Switching regulator faulty
Yes
Is the regular voltage at IC601-4?
2.5V when the cylinder is rotating.
5.0V when the cylinder is stopped.
No
IC601 faulty
Yes
Cylinder motor faulty
Yes
Is the CYL.FG signal at IC602-5/6?
No
Does the amplified wave appear at IC601-1?
No
IC602 and its peripheral circuits faulty.
Yes
Cylinder motor faulty
Yes
Is the TACH PULSE signal present at IC602-2?
No
Does the amplified wave apepr at IC601-55?
No
IC602 and its peripheral circuits faulty.
Yes
Cylinder motor faulty
Yes
Is fsc (4.43MHz) input to IC601-35?
No
IC201 in the video system and its peripheral circuits faulty
Yes
To ①


①
Is a TRK.TRG. signal output at IC801-46?
No
IC601 faulty
Yes
Is SW25 present at IC601-38?
No
Is PG MM present at IC601-54?
No
Parts connected to IC601-54 or IC601 faulty
Yes
Is SW25 output when IC601-38 is released?
No
IC601 faulty
Yes
Pattern to which IC601-38 is connected faulty
Yes
Is SW25 input to IC901-64?
No
Pattern between IC601-38 and IC901-64 faulty
Yes
IC601's peripheral parts (connected to pins 4~10) or IC901 faulty

In case of "Abnormal rotation of capstan motor"

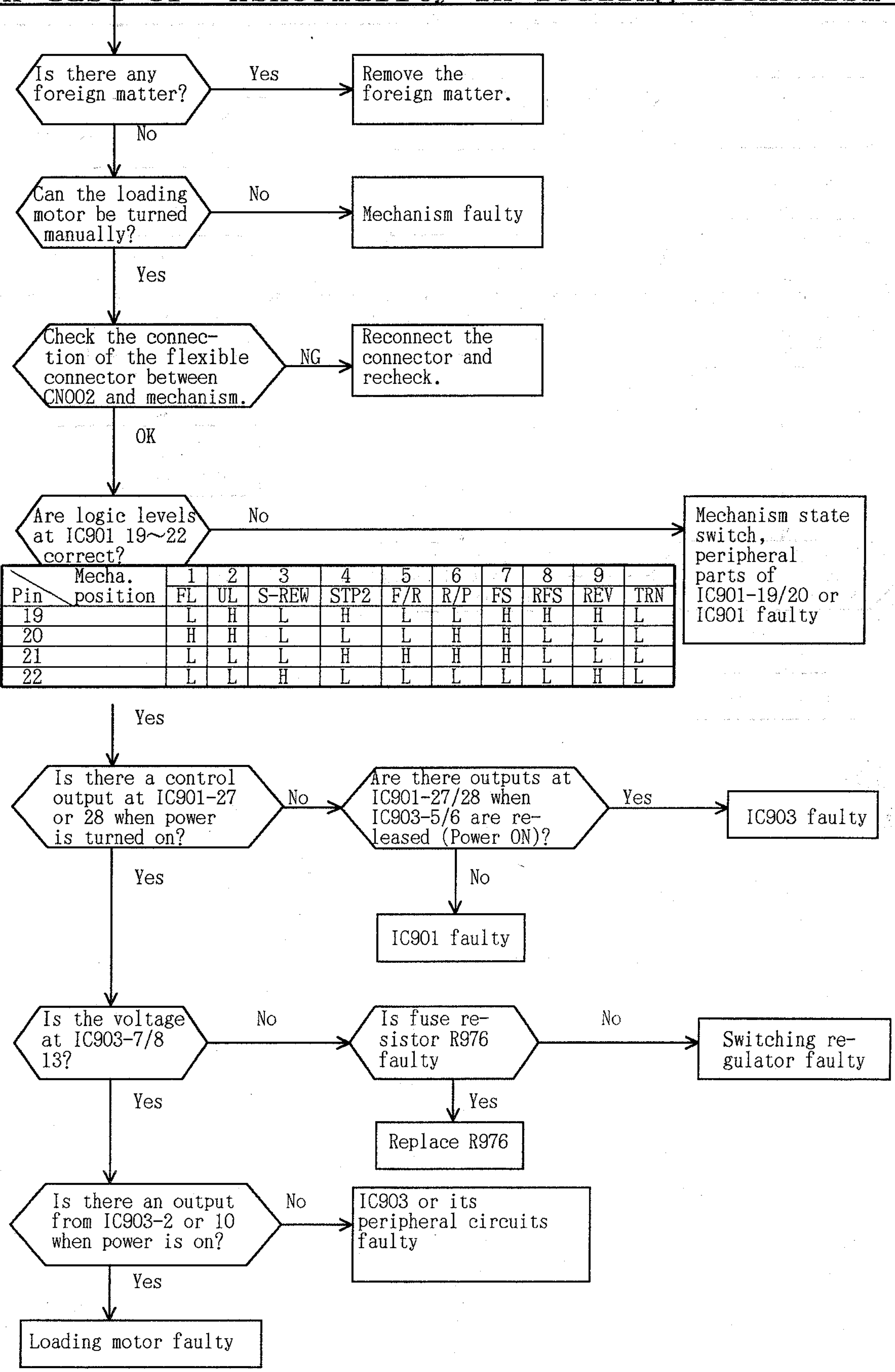

Is CFG input to IC901-66 (momentarily when the power is switched on)?
Yes
IC901 faulty
No
Is 4V or more at PG609-4 C.CONT?
No
IC901 or IC601 faulty
Yes
Is CFG output to IC601-31?
Yes
IC601 faulty
No
Is CFG output to PG609-3?
Yes
Q605's peripheral circuits faulty
No
Connector connected to PG609 or capstan motor faulty

In case of "Abnormal rotation of reel disks"


Does the capstan motor rotate?
No
Capstan motor system circuits faulty
Yes
Does the supply reel disk rotate (during REV.)?
No
Is the REVERSE signal "Hi"?
Yes
Mechanical parts faulty
• Reel drive idler
• Reel gear R
• Timing belt coming off
No
IC901 faulty
Yes
Does the take-up reel disk rotate (during PLAY)?
No
Mechanical parts faulty
• Reel drive idler
• Reel gear R
• Timing belt coming off
Yes
Are supply reel pulses present at IC901-23?
No
Check the connection of the flexible connector between CN002 and mechanism.
NG
Recheck reel pulses
OK
Reel sensor faulty
• Supply reel sensor
• Take-up reel sensor
Yes
Are take-up reel pulses present at IC901-24?
No
Yes
IC901 faulty

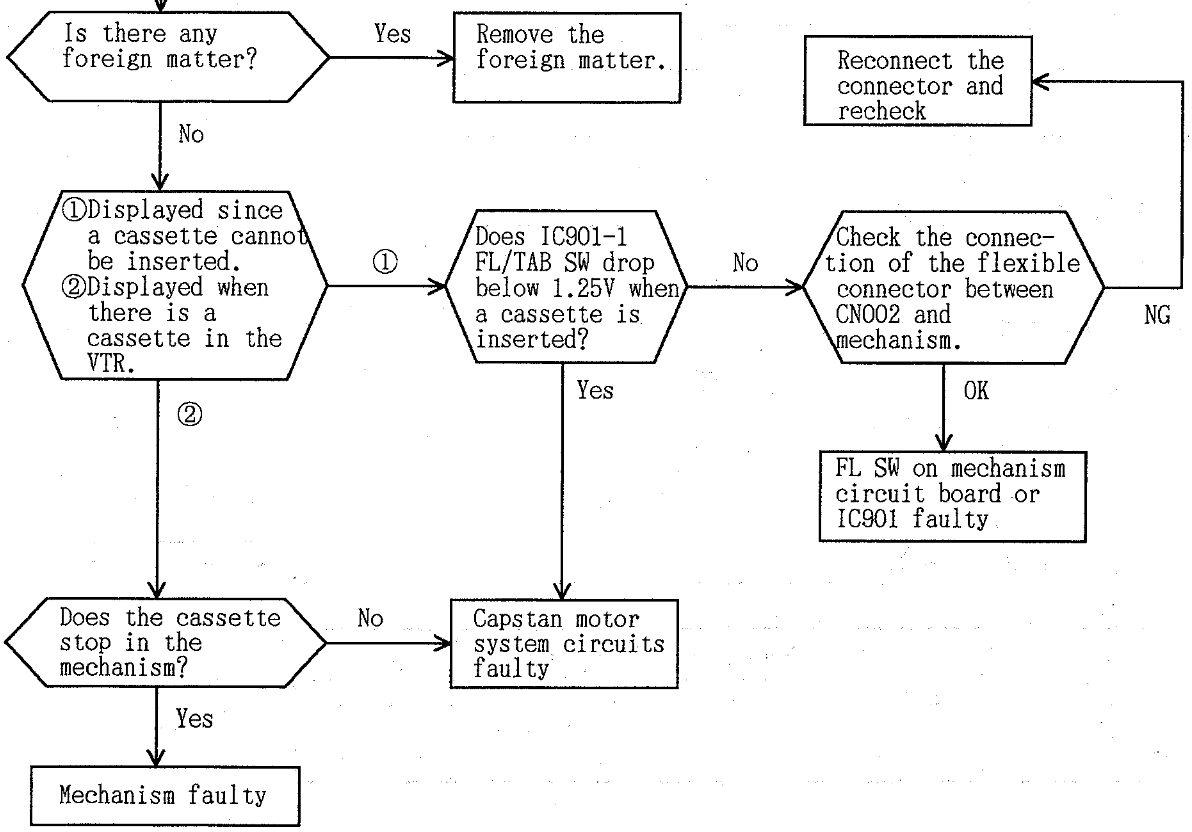
Caution: The cylinder system has priority. If the cylinder motor does not rotate normally, the capstan motor does not rotate.

In case of "Abnormality in loading mechanism"


Is there any foreign matter?
Yes
Remove the foreign matter.
No
Can the loading motor be turned manually?
No
Mechanism faulty
Yes
Check the connection of the flexible connector between CN002 and mechanism.
NG
Reconnect the connector and recheck.
OK
Are logic levels at IC901 19~22 correct?
No
Mechanism state switch, peripheral parts of IC901-19/20 or IC901 faulty
Yes
Is there a control output at IC901-27 or 28 when power is turned on?
No
Are there outputs at IC901-27/28 when IC903-5/6 are released (Power ON)?
Yes
IC903 faulty
No
IC901 faulty
Yes
Is the voltage at IC903-7/8 13?
No
Is fuse resistor R976 faulty
No
Switching regulator faulty
Yes
Replace R976
Yes
Is there an output from IC903-2 or 10 when power is on?
No
IC903 or its peripheral circuits faulty
Yes
Loading motor faulty

Pin \ Mecha. position	1 FL	2 UL	3 S-REW	4 STP2	5 F/R	6 R/P	7 FS	8 RFS	9 REV	 TRN
19	L	H	L	H	L	L	H	H	H	L
20	H	H	L	L	L	H	H	L	L	L
21	L	L	L	H	H	H	H	L	L	L
22	L	L	H	L	L	L	L	L	H	L

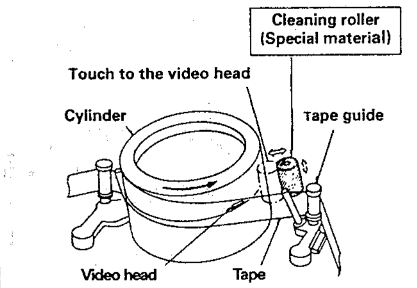
In case of "Abnormality in front loading mechanism"


Is there any foreign matter?
Yes
Remove the foreign matter.
No
①Displayed since a cassette cannot be inserted.
②Displayed when there is a cassette in the VTR.
①
Does IC901-1 FL/TAB SW drop below 1.25V when a cassette is inserted?
No
Check the connection of the flexible connector between CN002 and mechanism.
NG
Reconnect the connector and recheck
OK
FL SW on mechanism circuit board or IC901 faulty
Yes
②
Does the cassette stop in the mechanism?
No
Capstan motor system circuits faulty
Yes
Mechanism faulty

4. OPERATION

AUTO HEAD CLEANING SYSTEM

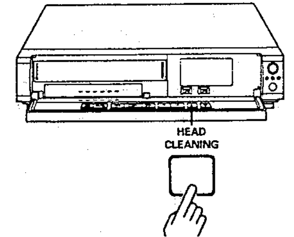
This system cleans the video heads automatically when a cassette is inserted and ejected or the operate switch is turned on or off while a cassette is in the VTR, to prevent dirt from accumulating on the heads.



■ Manual Head Cleaning

The auto head cleaning system operates when a cassette is inserted and ejected or the operate switch is turned on and off while a cassette is loaded and the heads are cleaned automatically. If the heads are still dirty, clean the heads manually as follows.

- Insert a cassette and press the HEAD CLEANING button while the VTR is in the stop mode. The cleaning roller cleans the heads. When the TV is turned on, "HEAD CLEANING" will appear on the screen.
- When the HEAD CLEANING button is pressed once, the head cleaning operation is performed once. (It takes about 10 seconds)
- If dirt cannot be removed, perform the cleaning operation several times.
- If dirt cannot be removed when the head cleaning operation is performed several times, consult your dealer.
- Mechanical sound is heard slightly during head cleaning.



HOW TO ENJOY THIS MULTI-SYSTEM VIDEO DECK

There are various colour broadcasting systems in different parts of the world. Your TV set can receive TV broadcast in your area, but perhaps cannot receive colour broadcasts in other countries. There are tapes recorded with different colour broadcast systems. Use this unit after fully understanding the following.

- **Broadcast systems that can be recorded with VT-F90EM**

Table 1

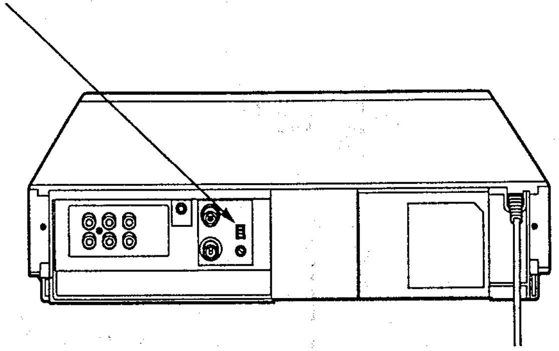
Broadcasting system for colour TV		**B/G-PAL**	**I-PAL**	**D/K-PAL**	**B/G-SECAM**	**D/K-SECAM**	**L-SECAM**	**NTSC *3**
Major Countries		Australia Germany Kuwait India Italy Singapore U.A.E Malaysia	Great Britain Hong Kong	China	Saudi Arabia Greece Lebanon Morocco Egypt	Bulgaria Ivory Coast C.I.S. Mongolia	France	USA Canada Japan Philippines Mexico
VTR Recording mode	PAL-SP *2	YES	YES	YES				
	PAL-LP	YES	YES	YES				
	MESECAM-SP				YES	YES		
	MESECAM-LP				YES	YES		
	SECAM-SP				YES	YES	*1 (YES)	
	SECAM-LP				YES	YES	*1 (YES)	
	NTSC-SP							YES
	NTSC-LP							
	NTSC-EP							YES
Position of G/I/K switch *4 (See below for the location of this switch)		G	I	K	G	K	—	ANY

*1 SECAM recording from VIDEO IN jack is possible, however, L-SECAM TV tuner is not built-in, therefore extra separate L-SECAM TV or L-SECAM VTR which is provided with VIDEO OUT jack is required.

*2 Suffixes "-SP", "-LP" and "-EP" mean the tape speeds of recorded tapes.

*3 In addition to the above recording NTSC 4.43 for VTR recording is possiblle only for dubbing purpose from NTSC 4.43 signal from other VTR.

*4 G/I/K switch



- **Types of tape playable with VT-F90EM and TV set to be connected**

Table 2

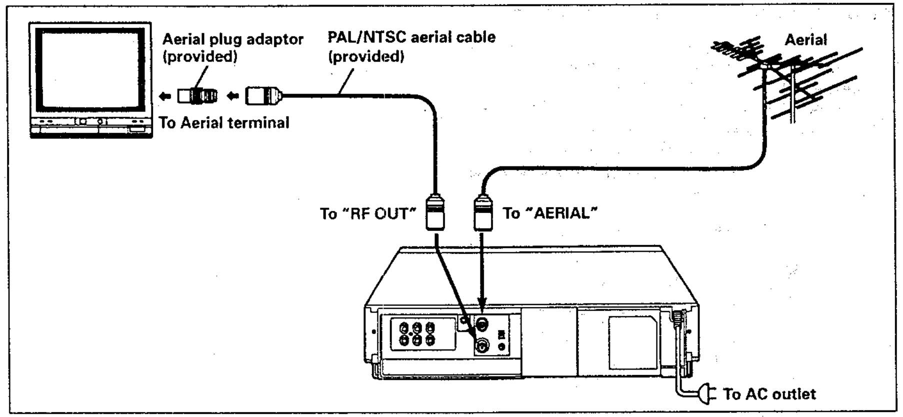
TV system / VTR playback mode	B/G-PAL colour TV	I-PAL colour TV	D/K-PAL colour TV	B/G-SECAM colour TV	D/K-SECAM colour TV	L-SECAM colour TV	NTSC 3.58 colour TV	NTSC 4.43 colour TV	Multi-system colour TV (for example HITACHI CMT-2518/2718/2918)
PAL-SP	YES	YES	YES						YES
PAL-LP	YES	YES	YES						YES
MESECAM-SP				YES	YES				YES
MESECAM-LP				YES	YES				YES
SECAM-SP SECAM-LP (French SECAM)				YES	YES	*5 (YES)			YES
NTSC-SP	*6 (YES)	*6 (YES)	*6 (YES)				YES	YES	YES
NTSC-LP	*6 (YES)	*6 (YES)	*6 (YES)				YES	YES	YES
NTSC-EP	*6 (YES)	*6 (YES)	*6 (YES)				YES	YES	YES

*5 L-SECAM RF converter is not built-in, but SECAM signal is obtained from VIDEO OUT jack for French SECAM TV.

*6 It is possible to play back an NTSC recorded tape when the TV has vertical sync adjustment circuitry (or volume) for 60 Hz.

INSTALLATION

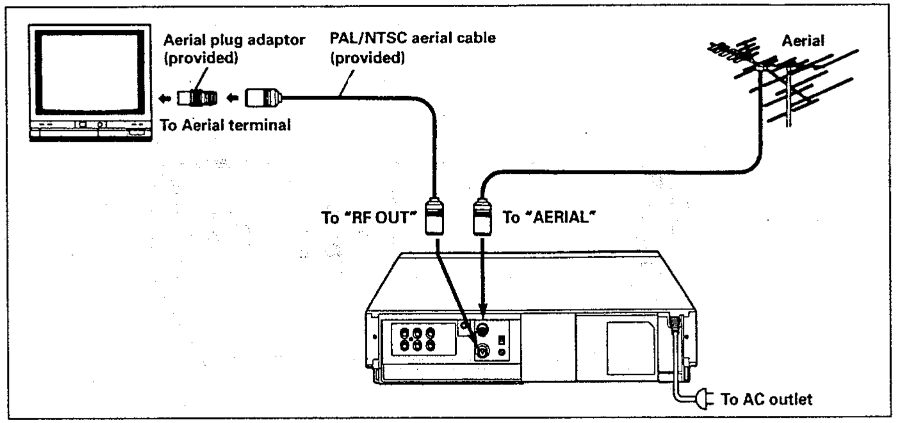
Type 1 When combined with a multi TV set [PAL: System B&G, SECAM B&G, NTSC 3.58 MHz (Standard) or 4.43 MHz (modified)].


Aerial plug adaptor (provided)
PAL/NTSC aerial cable (provided)
Aerial
To Aerial terminal
To "RF OUT"
To "AERIAL"
To AC outlet

1. Remove the aerial cable from your TV set.
   Place this cable into the terminal marked "AERIAL" on the VTR.
2. Connect your TV to the RF OUT terminal with the supplied PAL-NTSC aerial cable and aerial plug adaptor.
3. Plug into the mains.

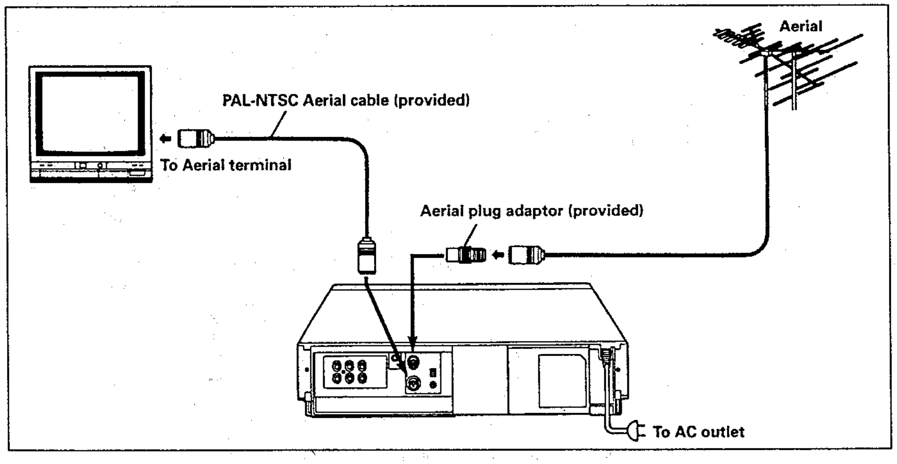
NOTE: The G/I/K select switch can be set to any position.

Type 2 When combined with a PAL (System B&G, D&K or I), SECAM (System B&G or D&K) TV set.


Aerial plug adaptor (provided)
PAL/NTSC aerial cable (provided)
Aerial
To Aerial terminal
To "RF OUT"
To "AERIAL"
To AC outlet

1. Remove the aerial cable from your TV set.
   Place this cable into the terminal marked "AERIAL" on the VTR.
2. Connect your TV to the RF OUT terminal with the supplied PAL-NTSC aerial cable and aerial plug adaptor.
3. Plug into the mains.
4. Set G/I/K select switch matching the TV to be connected.
   Set to "G" when connected to a PAL (System B&G) or SECAM (System B&G) TV.
   Set to "I" when connected to a PAL (System I) TV.
   Set to "K" when connected to a PAL (System D&K) or SECAM (System D&K) TV.

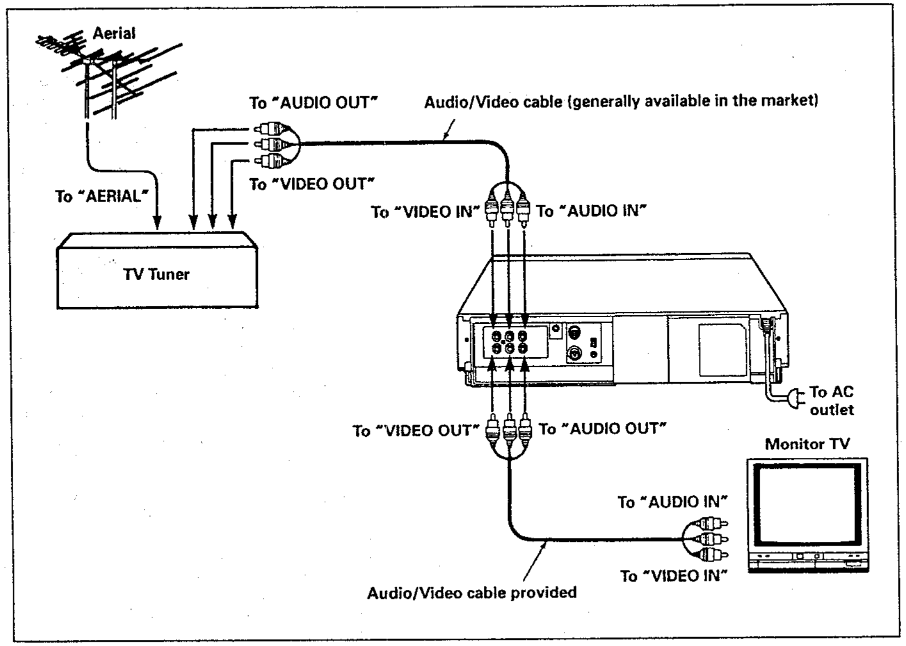
Type 3 When combined with an NTSC (standard 3.58 MHz) TV set.


Aerial
PAL-NTSC Aerial cable (provided)
To Aerial terminal
Aerial plug adaptor (provided)
To AC outlet

1. Connect the aerial to the aerial plug adaptor (provided) and then connect it to the "AERIAL" on the VTR.
2. Connect the one end of the PAL-NTSC aerial cable (provided) to the "RF OUT" terminal of this unit and the other end of cable to the aerial terminal of the TV set.

NOTE: The G/I/K select switch can be set to any position.

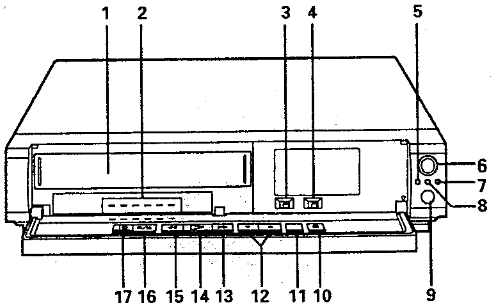
Type 4 When combined with a SECAM (System L) TV tuner and monitor TV.

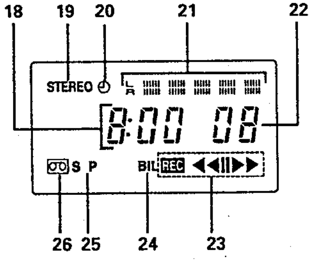


Notes: • When recording a SECAM (System L) signal, a TV tuner and monitor TV will have to be bought separately. They are not available from Hitachi.

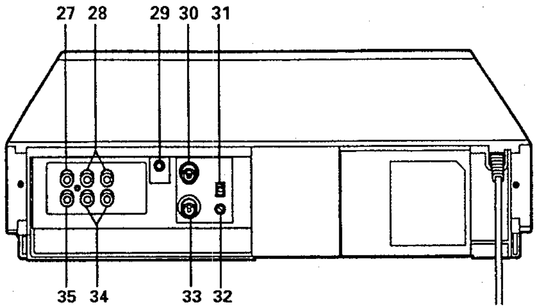
• Playback of a SECAM (System L) recorded tape is possible when the unit is connected to a MESECAM (System B&G) TV as in Type 2 as well as with the above connection.

CONTROLS AND FUNCTIONS





1. **Cassette compartment**
   Insert a cassette through the door, and loading will be completed automatically.
   Note: Power is turned on automatically when a cassette is loaded.
2. **Colour mode indicators**
   Indicates the mode corresponding to the colour mode which is being recorded or played back.
3. **SECAM/MESECAM switch**
   Use this to switch between SECAM and MESECAM if you record the SECAM broadcast signal.
4. **AI switch**
   Switch this during playback for the optimum picture.
   AI: Suppresses noise and provides a playback picture with sharper edges.
   NORMAL: The AI feature is switched off.
5. **⏻ STANDBY indicator**
   Lights whenever the VTR is connected to the activate mains supply.
6. **PUSH OPEN button**
   Press this button to open the front door of the VTR.
7. **REC (record) indicator**
   Lights while the VTR is recording.
8. **I OPERATE indicator**
   Lights when the VTR is connected to the activate mains supply and the OPERATE switch of the VTR is turned on. The indicator goes off when the OPERATE switch is turned off.
9. **Infrared ray receiving section**
   Receives infrared rays from the remote control unit.
10. **REC/IRT button**
    Press the REC button once to start recording.
    Pressing again lets you select a recording time within 4 hours. After recording for the preset time, the VTR will automatically shut off. This is convenient when you go out during recording.
11. **HEAD CLEANING button**
    Press this button to manually clean the video heads when the dirt cannot be removed by auto head cleaning.
12. **TV PROG buttons**
    Select the TV programmes you wish to view or record by pressing these buttons.
13. **F.FWD (fast forward) button**
    Press to activate fast forward.
    Press this button during playback and forward playback picture can be viewed at high speed.
14. **PLAY button**
    Press to start play.
    Note: When a cassette (with its erase prevention tab removed) is loaded, playback starts automatically.
15. **REW (rewind) button**
    Press to start rewind.
    Press this button during playback and reverse playback picture can be viewed at high speed.
16. **STOP/EJECT button**
    If this button is pressed, while the set is operating, the running of tape stops and all operating modes are cancelled (except for timer recording). The cassette is ejected, when this button is pressed again in STOP mode.
    Note: Power may be on or off when removing the cassette.
17. **OPERATE switch**
    Turn the system power on and off.
18. **Clock display**
    This displays the current time when the power is off. When power is turned on, you can switch the display between the clock ,linear time counter and tape remaining time by pressing the CLOCK/COUNT button on the remote control.
19. **STEREO indicator**
    Will light when receiving a stereo broadcast.
20. **Timer indicator**
    Will light when turning power off after programming. If you turn the OPERATE switch off to stand by for timer recording while a cassette without its record-protect tab is inserted or a cassette is not loaded, this indicator flashes.

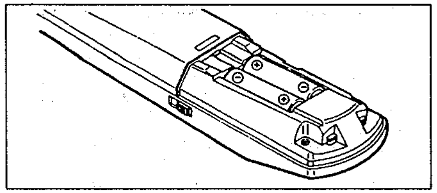


21. **AUDIO LEVEL indicators**
    Show the recording levels of each audio channel during recording and the recorded levels during playback.
22. **TV station number display**
    This shows the TV station number corresponding to the station selected.
    The "L" indicator appears when you select the AUX position by pressing the TRANS/AUX button on the remote control. "L" position is used to record or watch the programme input at the AUDIO IN/VIDEO IN jacks.
23. **Mode indicators**
    - "▶" appears during the playback mode.
    - "REC" appears during the record mode.
    - "◀◀" appears during the rewind mode and flashes during the rewind visual search mode.
    - "▶▶" appears during the fast forward mode and flashes during the forward visual search mode.
    - "▮" appears during the play/record pause mode.
    - "▮ ▶" appears in the continuous frame advance mode.
    - "▮▶" appears during the slow motion playback mode.
24. **BIL indicator**
    Will light when receiving a bilingual broadcast.
25. **Tape speed indicator**
    Shows tape speed during recording and playback.
    SP — Standard play **LP** — Long play (PAL)
    EP — Extra long play (NTSC)
26. **Tape indicator**
    Lights when cassette is loaded in the compartment.
27. **VIDEO IN**
    Receives video signals from a camera, or another VTR.
28. **AUDIO IN (L),(R)**
    Receives audio signals from a camera, external sound equipment or from another VTR.
29. **EDIT IN socket**
    Connect a camera pause cable.
30. **AERIAL input socket**
    Connect an external aerial.
31. **G/I/K select switch**
    Set this switch to match your TV.
32. **RF CHANNEL control**
    Used to adjust the video channel correctly.
33. **RF OUT socket**
    Connect to TV aerial input.
34. **AUDIO OUT (L),(R)**
    Permits audio connection of your unit to a monitor or another VTR.
35. **VIDEO OUT**
    Permits video connection of your unit to a monitor or another VTR.

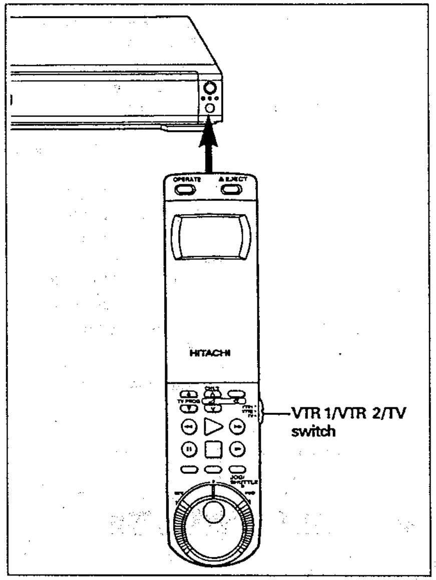
REMOTE OPERATION

You can operate the VTR from a distance using the Infrared Remote Control unit which performs the same functions as the corresponding buttons on the VTR.

Power source of infrared remote control unit
The infrared remote control unit is powered by two batteries (size IEC standard R6). The life of the batteries is about a year although it depends on the number of times the unit is used. Replace the batteries when operation is not possible or when the distance becomes too small.



Remote operations
To operate the VTR with the remote control, set the VTR 1/VTR 2/TV switch on the remote control unit to the VTR 1 position, then point it at the receiver on the front of the VTR.



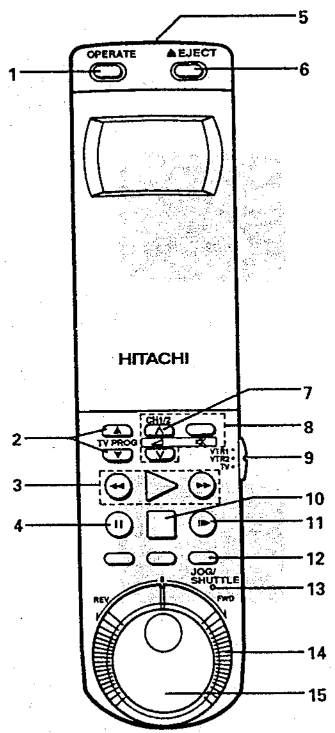
VTR 1/VTR 2/TV switch
The remote control unit provided is designed to operate two VT-F90EM units and 13 different types of TV.

- Refer to page 39 when using the remote control to operate the TV.
- Follow the procedure below when operating two VTRs.

For tape dubbing, as an example, recording VTR and playback VTR can be controlled by a single remote control unit. When controlling two VTRs, operate the other VTR as the VTR 1 and this VTR as the VTR 2. However, this VTR has been preset to be controlled as the VTR 1. Therefore, set this VTR so it can be controlled as the VTR 2 by following the "REMOTE CODE 1 or 2" section on page 29.

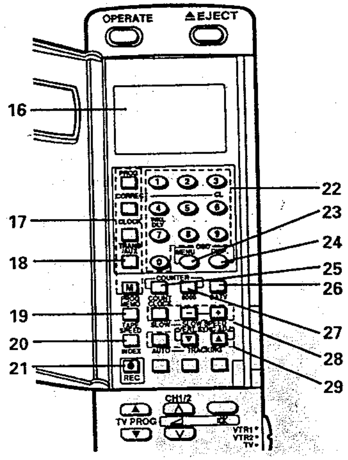
REMOTE OPERATION

Controls and functions



1. **OPERATE:** Same as OPERATE on the VTR (turns operate on/off).
2. **TV PROG:** Same as on the VTR.
3. **Play/rewind/fast forward:** Same as on the VTR.
4. **Still/pause:** Press to pause during recording. Press to view a still picture during playback. Press again to release.
5. **Transmission window:** Transmits commands to the VTR.
6. **EJECT:** Press to eject a cassette.
7. **CH 1/2:** Select the desired audio channel while playing a tape.
8. **TV control buttons:** Used for controlling the TV.
   The VTR 1/VTR 2/TV switch must be in the TV position.
9. **VTR 1/VTR 2/TV**
   - Set to TV to control the TV.
   - Select VTR 1 or VTR 2 to control two VTR units.
10. **STOP:** If this button is pressed, whiie the set is operating, the running of tape stops and all operating modes are cancelled (except for timer recording).
11. **F.ADV:** Advance the picture by one frame during still playback. See page 25 for details.
12. **JOG/SHUTTLE:** Press this button to operate the VTR with the jog dial and shuttle ring on the remote control unit. The JOG/SHUTTLE indicator below the button is turned on and off by pressing this button.
    The jog dial and shuttle ring on the remote control are activated only when the indicator is turned on.
13. **JOG/SHUTTLE indicator:** Lights when the JOG/SHUTTLE button is pressed and its function is turned on.
14. **Shuttle ring:** During play or still play, turn this ring to speed up or slow down the playback speed at a smooth variable tape, for everything from slow motion to visual search. Releasing the ring returns to play or still play.
    The JOG/SHUTTLE indicator must be on to operate these controls.
15. **Jog dial:** Every time the jog dial is turned to a click position during play or still play, the tape moves forward or backwards one frame at a time.
    The JOG/SHUTTLE indicator must be on to operate these controls.

Controls and functions

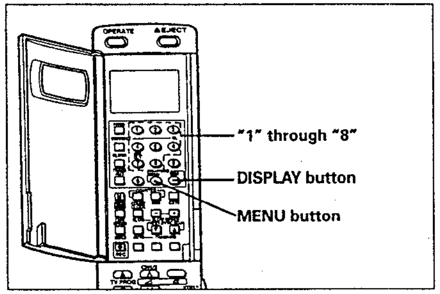


16. **Clock/timer display:** While setting the clock/timer, this display will prompt you through the procedure. After setting the clock, the display shows the clock time.
17. **Clock/timer programme buttons:** These buttons are used for setting the clock and programming the timer.
18. **TRANS/AUX:** Transfer the clock setting or timer programming information on the remote control unit to the VTR. And also used to select line input to record or view the program input through the VIDEO and AUDIO input jack.
19. **TAPE SPEED:** Select the tape speed for recording. The playback speed is automatically set to the speed used in recording.
20. **INDEX:** Used for INDEX and GO-TO functions. See page 25 for complete information.
21. **REC:** Same as on the VTR.
22. **10-KEY button**
    - Press two numbers to select a TV station.
    - Also use for setting the clock and programming the timer.
23. **MENU:** Press to review the timer programme, recall the VTR set-up menu, and select the language of the on-screen display.
24. **DISPLAY:** Controls the On-Screen Display. See page 28 for details.
25. **COUNT/CLOCK:** Press to switch the VTR display between the clock time display, tape remaining display and linear time counter display.
26. **CATV:** This button is used to preset CATV stations into the VTR's channel scan list.
27. **0000:** Used for counter reset button when the linear time counter is displayed in the VTR's display.
28. **SLOW/SLOW SPEED:** Used for slow motion play.
29. **TRACKING:** The VTR has an automatic tracking feature that will adjust the tracking whenever you insert a tape or press the PLAY button. The tracking can also be adjusted manually by pressing the MANUAL TRACKING buttons. The automatic tracking feature is turned off when-ever you press the MANUAL TRACKING buttons. Press the AUTO TRACKING button to turn the automatic tracking feature back on after you have adjusted the tracking manually.

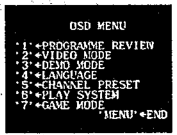
Note: The infrared rays will bounce off the walls and eventually reach the receiver on the VTR, but for best results transmit the rays directly to the receiver.

ON SCREEN DISPLAY

Pressing the MENU button will display various menus on the TV screen.



1. Turn on the OPERATE switches of the VTR and the TV, then set the TV to the pre-tuned video channel.
2. Point the remote control at the receiver on the front of the VTR.
3. Press MENU button. The "menu", as illustrated, will appear on the TV screen.

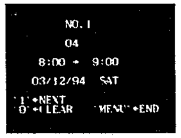


```
        OSD MENU

'1'←PROGRAMME REVIEW
'2'←VIDEO MODE
'3'←DEMO MODE
'4'←LANGUAGE
'5'←CHANNEL PRESET
'6'←PLAY SYSTEM
'7'←GAME MODE
            'MENU'←END
```

Press one of "1" ~ "7" to select the required display.

① Checking (reviewing) the programme information

- Press "1". The TV screen will display for 1 minute the information you entered for the lowest programme number.



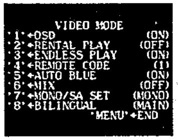
```
        NO. I

        04

   8:00 →  9:00

  03/12/94  SAT

'1'←NEXT
'0'←CLEAR    'MENU'←END
```

- Press "1" again if you want to view the next programme information.
- Pressing "0" will clear the programme.
- Press the MENU button to return to the original picture.

② Video mode setting

You can change the VTR mode as required.

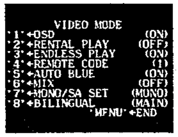
- Press "2". The "menu" as illustrated, will appear on TV screen.
  Press "1" through "8" to select the required function.



```
       VIDEO MODE
'1'←OSD               (ON)
'2'←RENTAL PLAY      (OFF)
'3'←ENDLESS PLAY      (ON)
'4'←REMOTE CODE        (1)
'5'←AUTO BLUE         (ON)
'6'←MIX              (OFF)
'7'←MONO/SA SET     (MONO)
'8'←BILINGUAL       (MAIN)
             'MENU'←END
```

■ **OSD [ON] or [OFF]**

Press "1" to change ➡



```
       VIDEO MODE
'1'←OSD               (ON)
'2'←RENTAL PLAY      (OFF)
'3'←ENDLESS PLAY      (ON)
'4'←REMOTE CODE        (1)
'5'←AUTO BLUE         (ON)
'6'←MIX              (OFF)
'7'←MONO/SA SET     (MONO)
'8'←BILINGUAL       (MAIN)
             'MENU'←END
```

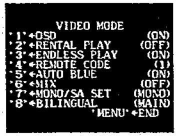
[ON]: Whenever you change the mode, the new mode is automatically displayed on the TV screen for a few seconds.

Note: If the DISPLAY button is pressed with the OSD ON, the following are obtained.
1st Press •••• Calls up the mode display on TV screen.
2nd Press •••• Clears the display.

[OFF]: The OSD will be switched off and nothing will be displayed on the TV screen. When this is selected, no operation mode will be displayed on the TV screen if the VTR is operated. This mode is useful to prevent recording of the On-Screen Display during tape copying.

■ **RENTAL PLAY [ON] or [OFF]**

Press "2" to change ➡



```
       VIDEO MODE
'1'←OSD               (ON)
'2'←RENTAL PLAY      (OFF)
'3'←ENDLESS PLAY      (ON)
'4'←REMOTE CODE        (1)
'5'←AUTO BLUE         (ON)
'6'←MIX              (OFF)
'7'←MONO/SA SET     (MONO)
'8'←BILINGUAL       (MAIN)
             'MENU'←END
```

[ON]: The VTR will automatically start playback when a cassette with the record-protect tab removed is inserted into the VTR.

Then the VTR will enter the rewind mode when the tape reaches its end or when the VTR plays the non-recorded section for approximately 30 seconds, and then VTR will eject the cassette at the beginning of tape and turn the power off.

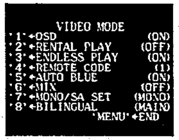
[OFF]: The rental play feature is switched off. (However, the VTR will automatically start play when a cassette with its record-protect tab removed is inserted into the VTR).

Notes:

- It is impossible to set both the RENTAL PLAY and ENDLESS PLAY functions to [ON] at the same time. If you attempt to do so, the other function is automatically set to [OFF].
- When a cassette with its safety tab is loaded, rental play does not operate even if this function is set to [ON].

■ **ENDLESS PLAY [ON] or [OFF]**

Press "3" ➡
to select



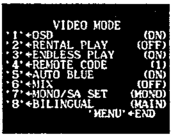
```
       VIDEO MODE
'1'←OSD               (ON)
'2'←RENTAL PLAY      (OFF)
'3'←ENDLESS PLAY      (ON)
'4'←REMOTE CODE        (1)
'5'←AUTO BLUE         (ON)
'6'←MIX              (OFF)
'7'←MONO/SA SET     (MONO)
'8'←BILINGUAL       (MAIN)
             'MENU'←END
```

[ON]: You can play the tape from the beginning to the end repeatedly. while in the endless play, you advance and visual search operations, however, this does not mean switching off the endless play feature.
To switch off the endless play, you must select [OFF] with this display.

[OFF]: The endless play feature is switched off.

■ **REMOTE CODE [1] or [2]**

Press "4" ➡
to select



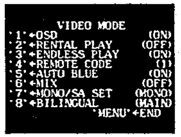
```
       VIDEO MODE
'1'←OSD               (ON)
'2'←RENTAL PLAY      (OFF)
'3'←ENDLESS PLAY      (ON)
'4'←REMOTE CODE        (1)
'5'←AUTO BLUE         (ON)
'6'←MIX              (OFF)
'7'←MONO/SA SET     (MONO)
'8'←BILINGUAL       (MAIN)
             'MENU'←END
```

This display lets you control your VTR with the "VTR 1" or "VTR 2" position of the VTR 1/VTR 2/TV switch on the remote control unit.
This is convenient when you want to add another Hitachi VTR to your system, and control both VTRs with the same remote control unit.
The "VTR 1" position of the VTR 1/ VTR 2/TV switch on the remote control will control the VTR you named [1] with this display, and the "VTR 2" position will control the VTR you named [2] with this display.
[1]: Your VTR will respond to the "VTR 1" position on the remote control.
[2]: Your VTR will respond to the "VTR 2" position on the remote control.

Note: The VTR will only respond to the remote code setting ([1] or [2]) you have selected. If you select [2] display, you must set the VTR 1/VTR 2/TV switch on the remote control to the "VTR 2" position before the VTR will respond to the remote control.

■ **AUTO BLUE [ON] or [OFF]**

Press "5" ➡
to select



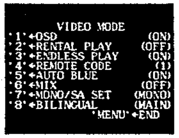
```
       VIDEO MODE
'1'←OSD               (ON)
'2'←RENTAL PLAY      (OFF)
'3'←ENDLESS PLAY      (ON)
'4'←REMOTE CODE        (1)
'5'←AUTO BLUE         (ON)
'6'←MIX              (OFF)
'7'←MONO/SA SET     (MONO)
'8'←BILINGUAL       (MAIN)
             'MENU'←END
```

[ON]: The TV screen becomes blue when a tape without a recording is played back.

[OFF]: The TV screen does not become blue.

■ **MIX [ON] or [OFF]**

Press "6" ➡
to select



```
       VIDEO MODE
'1'←OSD               (ON)
'2'←RENTAL PLAY      (OFF)
'3'←ENDLESS PLAY      (ON)
'4'←REMOTE CODE        (1)
'5'←AUTO BLUE         (ON)
'6'←MIX              (OFF)
'7'←MONO/SA SET     (MONO)
'8'←BILINGUAL       (MAIN)
             'MENU'←END
```

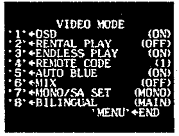
[ON]: The VTR plays both the VHS Hi-Fi sound and linear sound at the same time.

[OFF]: The VTR plays either the VHS Hi-Fi sound or linear sound.

Notes: This display has no effect when the L and/or R audio level indicator do not light on the VTR's display.

■ **MONO/SA SET SELECTION**
(Only for U.S.A. or Canada)

Press "7" ➡
to change



```
       VIDEO MODE
'1'←OSD               (ON)
'2'←RENTAL PLAY      (OFF)
'3'←ENDLESS PLAY      (ON)
'4'←REMOTE CODE        (1)
'5'←AUTO BLUE         (ON)
'6'←MIX              (OFF)
'7'←MONO/SA SET     (MONO)
'8'←BILINGUAL       (MAIN)
             'MENU'←END
```

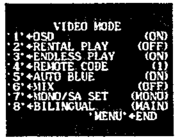
Some TV stations broadcast another sound channel along with selected stereo programmes called the SAP (Second Audio Programme). The SAP audio is sometimes used to broadcast the second sound track of a bilingual movie.
If desired, you can record the SAP audio on both the Hi-Fi and linear sound tracks by changing the SAP menu display to "SA". For normal recording, leave the SAP display set to "OFF".

- When "OFF" appears in the menu display, the SAP function is turned off, and the VTR will not record the SAP.
- When "SA" appears, the SAP function is turned on and the VTR will record SAP audio when it is broadcast.
- In some fringe viewing areas, the stereo signal may not be strong enough for quality reception. The signal may drift or become noisy. Should that occur, select "MONO" to receive clearer, cleaner sound.

■ BILINGUAL [MAIN] or [SUB]

(Only for Japan)

Press "8" ➡
to select


VIDEO MODE
'1'←OSD (ON)
'2'←RENTAL PLAY (OFF)
'3'←ENDLESS PLAY (ON)
'4'←REMOTE CODE (1)
'5'←AUTO BLUE (ON)
'6'←MIX (OFF)
'7'←MONO/SA SET (MONO)
'8'←BILINGUAL (MAIN)
'MENU'←END

[MAIN]: Main language is recorded on the linear track.

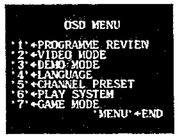
[SUB]: Sub (foreign) language is recorded on the linear track.

③ OSD effects demonstration

You can demonstrate OSD effects used in this VTR.

- The pictures demonstrating the OSD effects are each displayed for about 10 seconds.

Press "3" ➡


OSD MENU
'1'←PROGRAMME REVIEW
'2'←VIDEO MODE
'3'←DEMO MODE
'4'←LANGUAGE
'5'←CHANNEL PRESET
'6'←PLAY SYSTEM
'7'←GAME MODE
'MENU'←END

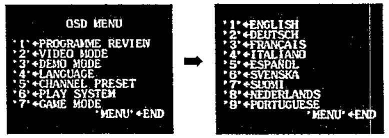
Note: When you select German following the procedure shown below, the OSD effects are demonstrated in German.

- To stop the demonstration, press MENU button.

④Change of language

You can change the language displayed on the TV screen.

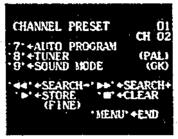
- Press "4". The 9 languages are displayed on the TV screen, and then press the number button 1 through 9 to select the language.


OSD MENU
'1'←PROGRAMME REVIEW
'2'←VIDEO MODE
'3'←DEMO MODE
'4'←LANGUAGE
'5'←CHANNEL PRESET
'6'←PLAY SYSTEM
'7'←GAME MODE
'MENU'←END
'1'←ENGLISH
'2'←DEUTSCH
'3'←FRANCAIS
'4'←ITALIANO
'5'←ESPANOL
'6'←SVENSKA
'7'←SUOMI
'8'←NEDERLANDS
'9'←PORTUGUESE
'MENU'←END

- When "2" is pressed, for example, the OSD menu will be displayed in German. When you operate the VTR hereafter, the mode display is in German.

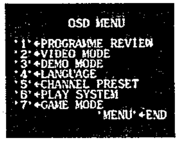
⑤Pre-tuning of built-in TV tuner

- Press "5". The CHANNEL PRESET display appears on the TV screen.
- Details for pre-tuning a built-in TV tuner are on page 15.

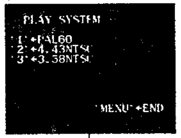

CHANNEL PRESET 01
CH 02
'7'←AUTO PROGRAM
'8'←TUNER (PAL)
'9'←SOUND MODE (GK)
'◀◀'←SEARCH–'▶▶'←SEARCH+
'▶'←STORE '■'←CLEAR
(FINE)
'MENU'←END

⑥Selection of play system

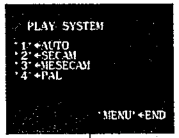
1. Press the MENU button during playback.


OSD MENU
'1'←PROGRAMME REVIEW
'2'←VIDEO MODE
'3'←DEMO MODE
'4'←LANGUAGE
'5'←CHANNEL PRESET
'6'←PLAY SYSTEM
'7'←GAME MODE
'MENU'←END

2. Press "6" to select the play system.


PLAY SYSTEM
'1'←PAL60
'2'←4.43NTSC
'3'←3.58NTSC
'MENU'←END

NTSC recorded tape


PLAY SYSTEM
'1'←AUTO
'2'←SECAM
'3'←MESECAM
'4'←PAL
'MENU'←END

PAL/SECAM/MESECAM recorded tape

- When an NTSC recorded tape is played back;

[PAL 60] : Press "1" to select [PAL 60] when connecting this VTR to a PAL colour TV providing vertical sync adjustment circuitry (or volume) for 60 Hz.

[4.43 NTSC] : Press "2" to select [4.43 NTSC] when connecting the Multi-colour TV which does not have NTSC 3.58 but only 4.43.

[3.58 NTSC] : Press "3" to select [3.58 NTSC] when an NTSC 3.58 signal is output.

- When the PAL/SECAM/MESECAM recorded tape is played back;

[AUTO] : Press "1" to select [AUTO] ordinarily. If a normal picture does not appear when playing back, press "2" through "4"button to select [SECAM] , [MESECAM] , or [PAL] .

[SECAM] :Press "2" to select [SECAM] when you play back a SECAM recorded tape.

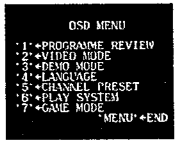
[MESECAM] : Press "3" to select [MESECAM] when you play back a MESECAM recorded tape.

[PAL] : Press "4" to select [PAL] when you play back a PAL recorded tape.

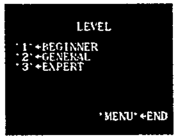
■ GAME MODE

You can enjoy the slot game with this VTR.

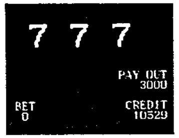
1. Press "7" to select game mode.


OSD MENU
'1'←PROGRAMME REVIEW
'2'←VIDEO MODE
'3'←DEMO MODE
'4'←LANGUAGE
'5'←CHANNEL PRESET
'6'←PLAY SYSTEM
'7'←GAME MODE
'MENU'←END

2. Press "1" for beginner, press "2" for general or press "3" for expert.


LEVEL
'1'←BEGINNER
'2'←GENERAL
'3'←EXPERT
'MENU'←END

"777" appears on TV screen and you can enjoy the slot game. Refer to page 32 for details.


7 7 7
PAY OUT
3000
BET
0
CREDIT
10529

HITACHI

VT-F90EM
(JU),(HKN),(SWN)

TK No.4318E TOKAI Consumer Electronics Divisi

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Printed in Japan (HE

HITACHI
SERVICE MANUAL

TK

No.4318E-1

VT-F90EM
(JU),(HKN),(SWN)

SUPPLEMENT

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  CHASSIS(I) SECTION 1-
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CHAPTER 7

REPLACEMENT PARTS LIST [For JU]
  ELECTRICAL PARTS LIST
  (SWITCHING REGULATOR SECTION) 1-
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  2.ELECTRICAL PARTS LIST 1-2

VHS

This video desk is a VHS type video recorder. For proper operation, only the VHS type cassette must be used.

This service manual includes the following materials.
- SPECIFICATIONS [For HKN,SWN]
- EXPLODED VIEWS [For HKN,SWN]
- PARTS LIST [For JU(Only Switching Regulator)]
  [For HKN,SWN]

Use this manual together with the following manual.

MANUALS RELATED TO THE VT-F90EM

Name of Manual	Language	Manual No.	Chapters inclued
Technical Data VT-F90EM(JU)(HKN)(SWN)	English	4318E	Chapters 1 - 8

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

VIDEO CASSETTE RECORDER

November 1993

TOKAI Consumer Electronics Division

SPECIFICATIONS [For HKN]

Format:	VHS PAL, NTSC & SECAM
Recording:	Rotary Two-Head Helical Scan Azimuth Recording
Head:	Double Azimuth 4 heads 2 for SP 2 for LP/EP
Tape Speed:	PAL/SECAM/MESECAM: 23.39 mm/sec (SP), 11.7 mm/sec (LP)
	NTSC: 33.35 mm/sec (SP), 16.67 mm/sec (LP) (playback only), 11.12 mm/sec (EP)
Tape Width:	12.7 mm
Operation Temperature:	5°C to 40°C
Video:	PAL, SECAM & MESECAM colour & CCIR monochrome signal 625 lines
	Standard (3.58 MHz) and modified (4.43 MHz) NTSC colour & EIA standard 525 lines
Recording Time:	480 min. (using E-240 cassette) (PAL/SECAM LP mode)
	480 min. (using T-160 cassette) (NTSC EP mode)
Antenna Input:	PAL mode: VHF: 2—12, UHF: 21—69, CATV: S1—S20
	American NTSC mode: VHF 2—13, UHF: 14—69,.CATV: L—W
	Japanese NTSC mode: VHF 1—12, UHF: 13—62
RF Output:	UHF channel 37 (32—42 adjustable) .... System I, G and K
	UHF channel 34—36 (29—42 adjustable) .... NTSC
Video Input:	0.5 to 1.5V p-p 75 ohm Unbalanced
Video Output:	1V p-p 75 ohm Unbalanced
S/N Ratio (Video):	43 dB
Audio (Linear)	S/N Ratio : 43dB
	Frequency Range : 70Hz to 12kHz
Hi-Fi Audio	Frequency Range : 20Hz to 20kHz
	Dynamic Range : More than 90 dB
	Wow and Flutter : Less than 0.005% WRMS
Horizontal Resolution:	Colour 260 lines
Audio Input:	—8 dBm 50 Kohm
Audio Output:	—8 dBm 1 Kohm
Fast Forward/Rewind time:	About 3 minutes (with E-180/T-120 cassette)
Power:	AC 110 — 240V, 50/60 Hz
Power Consumption:	24 W (including timer)
Timer:	24 hour digital indication
Cabinet Size:	380 mm(W) x 86 mm(H) x 340 mm(D)
Weight:	5.0 kg
Accessories Included:	1 — Aerial cable
	1 — Infrared Remote control unit
	2 — Batteries
	1 — Power socket adaptor
	1 — Audio/Video Cable

* Design and specifications are subject to change without notice.

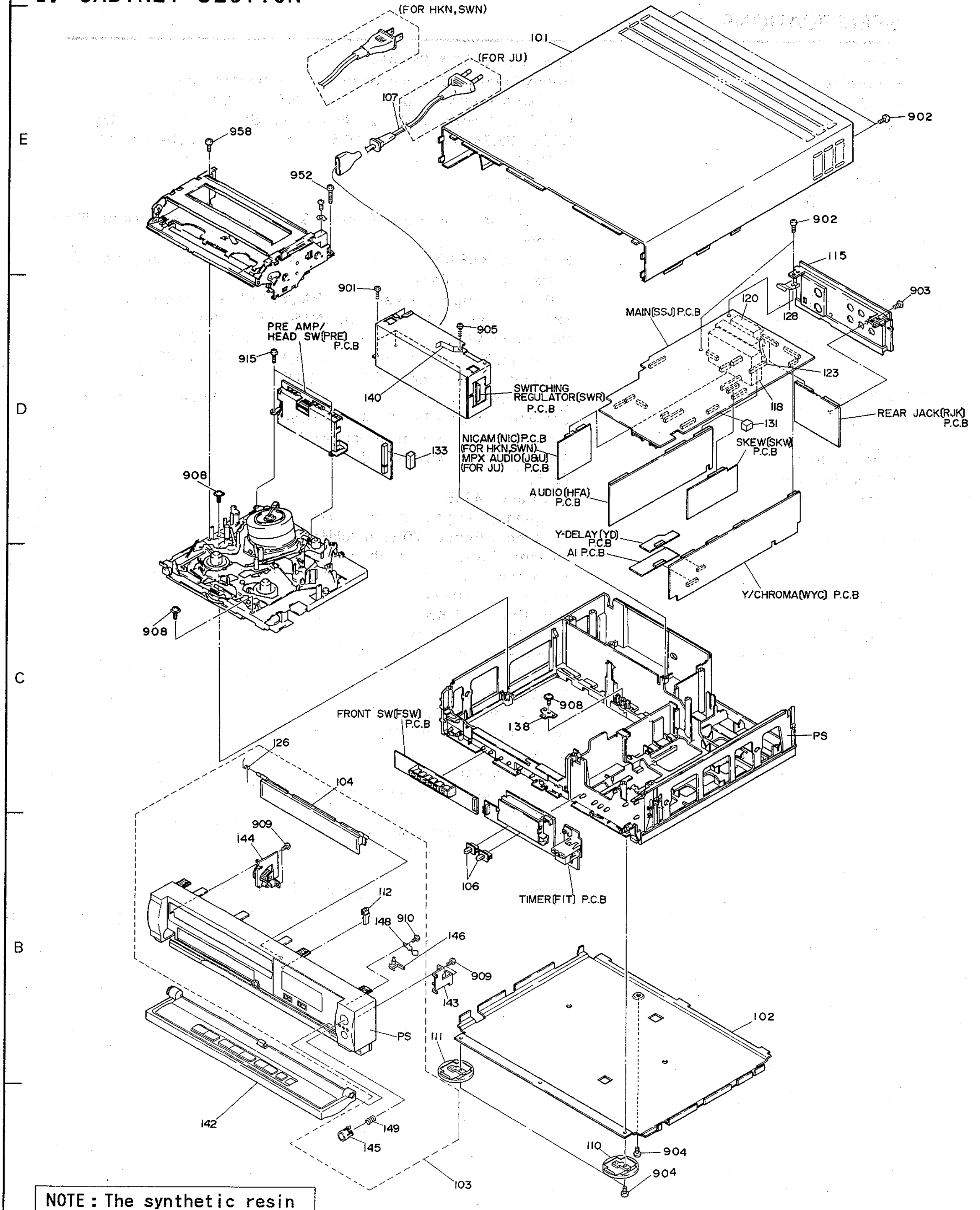
SPECIFICATIONS [For SWN]

Format:	VHS PAL, NTSC & SECAM
Recording:	Rotary Two-Head Helical Scan Azimuth Recording
Head:	Double Azimuth 4 heads 2 for SP 2 for LP/EP
Tape Speed:	PAL/SECAM/MESECAM: 23.39 mm/sec (SP), 11.7 mm/sec (LP) NTSC: 33.35 mm/sec (SP), 16.67 mm/sec (LP) (playback only), 11.12 mm/sec (EP)
Tape Width:	12.7 mm
Operation Temperature:	5°C to 40°C
Video:	PAL, SECAM & MESECAM colour & CCIR monochrome signal 625 lines Standard (3.58 MHz) and modified (4.43 MHz) NTSC colour & EIA standard 525 lines
Recording Time:	480 min. (using E-240 cassette) (PAL/SECAM LP mode) 480 min. (using T-160 cassette) (NTSC EP mode)
Antenna Input:	PAL mode: VHF: 2—12, UHF: 21—69, CATV: S1—S41 American NTSC mode: VHF 2—13, UHF: 14—69,.CATV: J—W+29 Japanese NTSC mode: VHF 1—12, UHF: 13—62
RF Output:	UHF channel 37 (32—42 adjustable) .... System I, G and K UHF channel 34—36 (29—42 adjustable) .... NTSC
Video Input:	0.5 to 1.5V p-p 75 ohm Unbalanced
Video Output:	1V p-p 75 ohm Unbalanced
S/N Ratio (Video):	43 dB
Audio (Linear)	S/N Ratio : 43dB Frequency Range : 70Hz to 12kHz
Hi-Fi Audio	Frequency Range : 20Hz to 20kHz Dynamic Range : More than 90 dB Wow and Flutter : Less than 0.005% WRMS
Horizontal Resolution:	Colour 260 lines
Audio Input:	—8 dBm 50 Kohm
Audio Output:	—8 dBm 1 Kohm
Fast Forward/Rewind time:	About 3 minutes (with E-180/T-120 cassette)
Power:	AC 110 — 240V, 50/60 Hz
Power Consumption:	24 W (including timer)
Timer:	24 hour digital indication
Cabinet Size:	380 mm(W) x 86 mm(H) x 340 mm(D)
Weight:	5.0 kg
Accessories Included:	1 — Aerial cable 1 — Infrared Remote control unit 2 — Batteries 1 — Power socket adaptor 1 — Audio/Video Cable

* Design and specifications are subject to change without notice.

EXPLODED VIEWS [For HKN, SWN]

1. CABINET SECTION


(FOR HKN,SWN)
101
(FOR JU)
107
902
958
952
902
115
903
128
120
MAIN(SSJ) P.C.B
901
905
PRE AMP/
HEAD SW(PRE)
P.C.B
915
140
SWITCHING
REGULATOR(SWR)
P.C.B
123
118
131
REAR JACK(RJK)
P.C.B
133
NICAM(NIC)P.C.B
(FOR HKN,SWN)
MPX AUDIO(J&U)
(FOR JU) P.C.B
SKEW(SKW)
P.C.B
908
AUDIO(HFA)
P.C.B
Y-DELAY(YD)
P.C.B
AI P.C.B
Y/CHROMA(WYC) P.C.B
908
908
138
FRONT SW(FSW)
P.C.B
PS
126
104
909
144
106
TIMER(FIT) P.C.B
112
148
910
146
909
143
102
PS
111
142
149
145
110
904
904
103
E
D
C
B
A

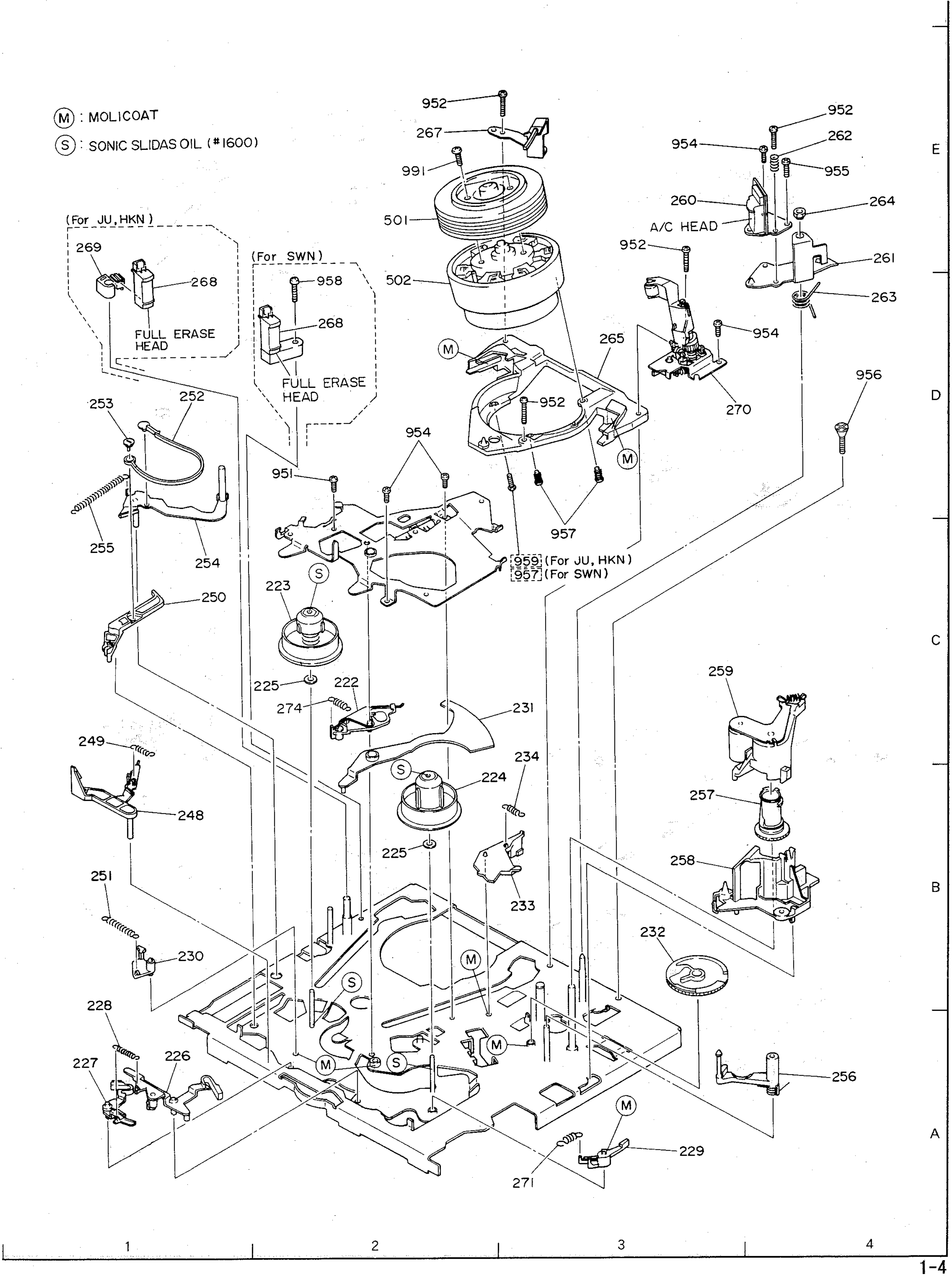
NOTE : The synthetic resin menbers that can be dismantled are shown by abbreviations using letters.

1
2
3
4

2. CHASSIS (I) SECTION

Ⓜ : MOLICOAT

Ⓢ : SONIC SLIDAS OIL (#1600)



(For JU, HKN)
269
268
FULL ERASE HEAD
(For SWN)
958
268
FULL ERASE HEAD
952
267
991
501
502
952
954
262
955
260
264
A/C HEAD
952
261
263
954
265
270
952
956
Ⓜ
Ⓜ
253
252
255
254
951
954
957
959 (For JU, HKN)
957 (For SWN)
250
223
Ⓢ
225
222
274
231
249
248
Ⓢ
224
234
225
233
251
230
232
259
257
258
Ⓜ
Ⓢ
228
227
226
Ⓜ
Ⓢ
Ⓜ
256
Ⓜ
229
271
E
D
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A
1
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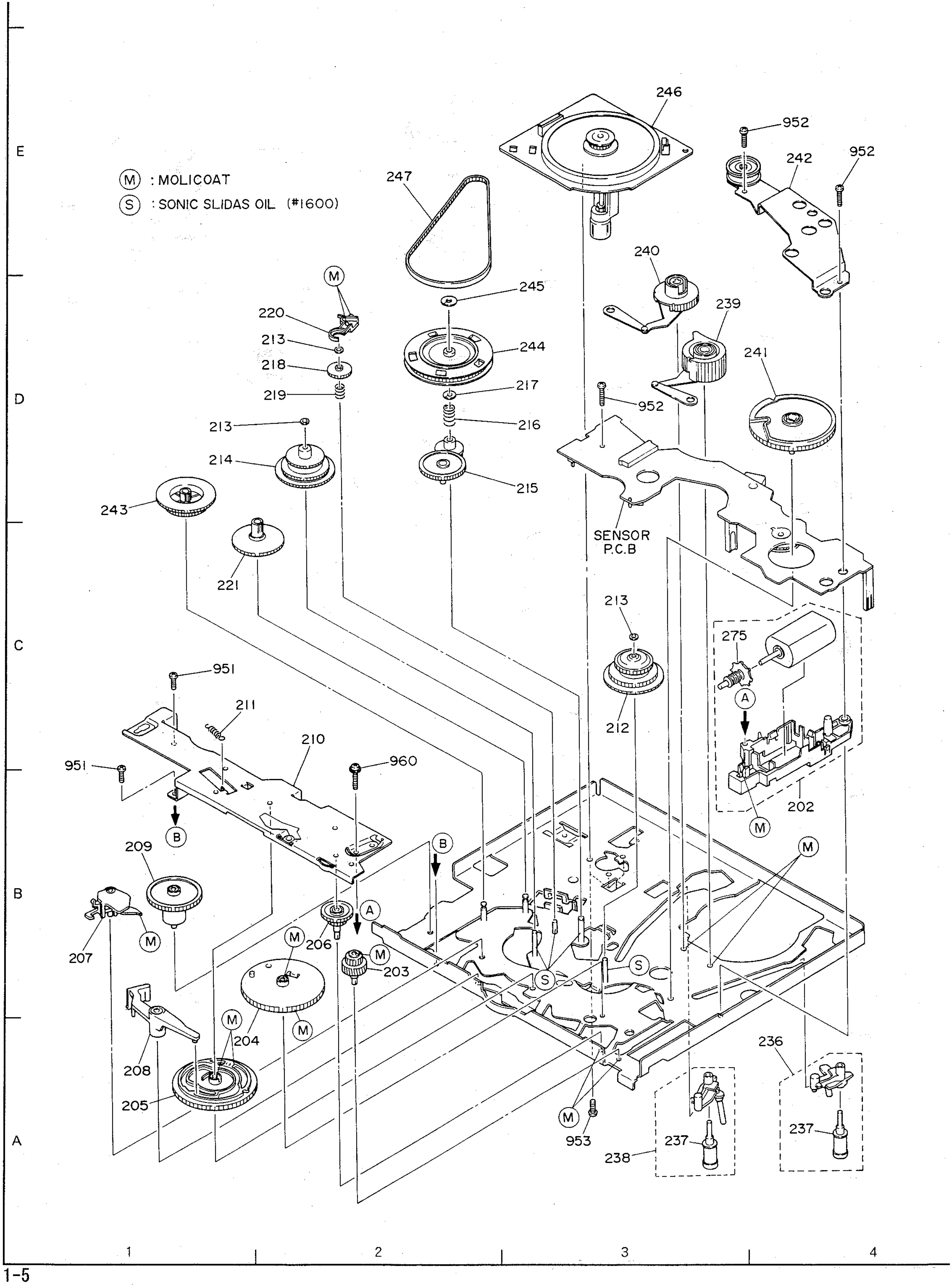
4

3. CHASSIS (II) SECTION



Ⓜ : MOLICOAT

Ⓢ : SONIC SLIDAS OIL (#1600)

E
D
C
B
A
1
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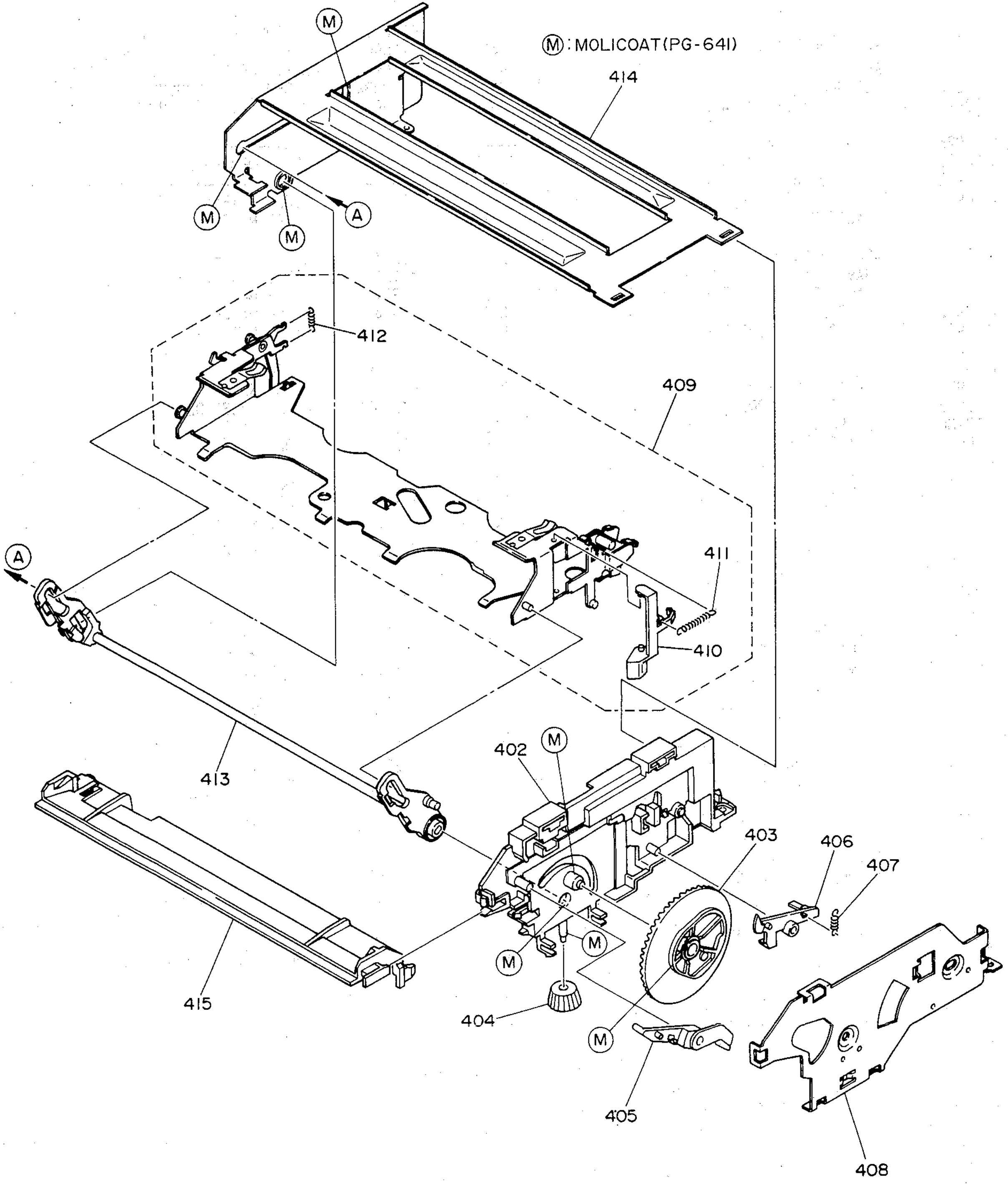
3
4
246
952
952
242
247
240
245
220
213
218
219
244
217
239
241
952
216
213
214
215
243
SENSOR P.C.B
221
213
275
951
211
212
210
960
951
202
209
207
206
203
204
208
205
953
236
237
237
238
M
S
A
B

4. CASSETTE LOADING MECHANISM SECTION


Ⓜ : MOLICOAT(PG-641)
Ⓜ
414
Ⓜ
Ⓜ
Ⓐ
412
409
Ⓐ
411
410
413
402
Ⓜ
403
406
407
Ⓜ
Ⓜ
Ⓜ
415
404
Ⓜ
405
408

E
D
C
B
A
1
2
3
4

REPLACEMENT PARTS LIST【For JU】

1. ELECTRICAL PARTS LIST (SWITCHING REGULATOR SECTION)

SYMBOL-NO	P-NO	DESCRIPTION
		SWITCHING REGULATOR SECTION
		CAPACITORS
C 5	4110921	ELECTROLYTIC 1UF 50V
⚠C 7	4110922	CAPACITOR 3300PF
⚠C 8	4110922	CAPACITOR 3300PF
C 9	4110923	ELECTROLYTIC 2.2UF 50V
C10	4110924	ELECTROLYTIC 68UF 400V
C11	4110925	CAPACITOR 0.1UF
C12	4110926	CAPACITOR 0.022UF
C13	4110927	CAPACITOR 0.01UF 400V
C14	4110928	CAPACITOR 47PF 1KV
C16	4110925	CAPACITOR 0.1UF
C17	4110929	CAPACITOR 470PF
C20	0209171	CERAMIC DISC 0.01UF+80-20% 50V
C21	0209171	CERAMIC DISC 0.01UF+80-20% 50V
C22	4110932	ELECTROLYTIC 27UF 50V
C23	4110932	ELECTROLYTIC 27UF 50V
C24	4110933	ELECTROLYTIC 1000UF 16V
C25	4110934	CAPACITOR 0.033UF
C26	4110935	ELECTROLYTIC 1000UF 16V
C27	4110936	ELECTROLYTIC 1000UF 6.3V
C28	4110937	ELECTROLYTIC 100UF 10V
C29	4110938	CAPACITOR 0.01UF
C30	4110939	ELECTROLYTIC 330UF 16V
C31	4110941	ELECTROLYTIC 47UF 50V
C33	0209761	CERAMIC DISC 0.01MF+-10% 25V
C34	4110943	ELECTROLYTIC 100UF 16V
C37	0209761	CERAMIC DISC 0.01MF+-10% 25V
C38	4110938	CAPACITOR 0.01UF
⚠C39	4110944	CAPACITOR 0.1UF
C42	0208374	CERAMIC DISC 10000PF+-20% 16V
C43	0208362	CERAMIC DISC 220PF+-10% 50V
		RESISTORS
R 3	4110947	RESISTOR 220KOHM 1/2W
R 4	4110947	RESISTOR 220KOHM 1/2W
R 5	0700059	CARBON FILM 27KOHM+-5% 1/8W
R 6	4110949	RESISTOR 330HM 2W
R 7	4110951	RESISTOR 220HM 2W
R 8	0700054	CARBON FILM 10KOHM+-5% 1/8W
R11	0700027	CARBON FILM 100 OHM+-5% 1/8W
R12	0700054	CARBON FILM 10KOHM+-5% 1/8W
R13	0700014	CARBON FILM 100HM+-5% 1/8W
R14	4110955	RESISTOR 56KOHM 3W
R15	4110956	RESISTOR 0.330HM 1W
R16	0700005	CARBON FILM 2.2 OHM+-5% 1/8W
R17	0700052	CARBON FILM 6.8KOHM+-5% 1/8W
R18	4110959	RESISTOR 110HM 3W
R19	4110961	RESISTOR 30.9KOHM
R20	4110962	RESISTOR 20KOHM
R26	0700027	CARBON FILM 100 OHM+-5% 1/8W
R27	0700054	CARBON FILM 10KOHM+-5% 1/8W
R28	0700052	CARBON FILM 6.8KOHM+-5% 1/8W
R29	4110963	RESISTOR 2.7KOHM 1/2W
R32	4110951	RESISTOR 220HM 2W
R33	0700052	CARBON FILM 6.8KOHM+-5% 1/8W
R35	0700046	CARBON FILM 2.7KOHM+-5% 1/8W
R36	4110963	RESISTOR 2.7KOHM 1/2W
R38	0700061	CARBON FILM 33KOHM+-5% 1/8W
R39	0700054	CARBON FILM 10KOHM+-5% 1/8W
R40	0700056	CARBON FILM 15KOHM+-5% 1/8W
⚠R41	4110967	RESISTOR 820KOHM 1/4W
R44	4110968	RESISTOR 330KOHM 1/2W
R45	4110968	RESISTOR 330KOHM 1/2W
R46	0700069	CARBON FILM 150KOHM+-5% 1/8W
R47	0700061	CARBON FILM 33KOHM+-5% 1/8W
R48	0700073	CARBON FILM 270KOHM+-5% 1/8W
R49	4110968	RESISTOR 330KOHM 1/2W
R50	4110968	RESISTOR 330KOHM 1/2W
R52	0700034	CARBON FILM 3300HM+-5% 1/8W
R56	0700019	CARBON FILM 27 OHM+-5% 1/8W
		TRANSFORMERS
⚠D 1	4113161	DIODE S1WBA40
D 3	4113171	DIODE MA2270
D 4	5332401	DIODE MA165
D 5	4113181	DIODE MA4051N
D 6	5332401	DIODE MA165
D 7	5332401	DIODE MA165
D 8	5333151	DIODE EG01-G3
D 9	4113191	DIODE MA700
D10	5333191	DIODE RU4Y-K1
D11	5332071	DIODE ERC81-004
D12	4113201	DIODE MA179
D15	5333151	DIODE EG01-G3
D16	4113211	DIODE MA2180
D17	5333151	DIODE EG01-G3
D20	4113221	DIODE MA4110N-L
D21	4113261	DIODE HZ9B1L
D22	5332401	DIODE MA165
D23	5332401	DIODE MA165
D24	5332401	DIODE MA165
D25	5332401	DIODE MA165
D27	5332401	DIODE MA165
D28	5332401	DIODE MA165
D29	5332401	DIODE MA165
D30	4113231	DIODE MA4300
D31	4113241	DIODE MA4120
D32	5332401	DIODE MA165
D33	4113251	DIODE ERA15-01
D34	4113271	DIODE MA4075
⚠IC 1	4113111	IC PS2561-1
IC 2	4113121	IC AN1431T
⚠PR 2	5721807	IC PROTECTOR
Q 1	5322461	TRANSISTOR 2SD637R SILICON 150MHZ 0.
Q 2	4113131	TRANSISTOR 2SK1030
Q 3	5322471	TRANSISTOR 2SB644R SILICON
Q 6	4113141	TRANSISTOR 2SB641
Q 7	4113151	TRANSISTOR 2SC3852
Q 8	4113151	TRANSISTOR 2SC3852
Q 9	5322461	TRANSISTOR 2SD637R SILICON 150MHZ 0.
Q10	5322461	TRANSISTOR 2SD637R SILICON 150MHZ 0.
Q11	5322461	TRANSISTOR 2SD637R SILICON 150MHZ 0.
Q12	4113151	TRANSISTOR 2SC3852
		TRANSFORMER
⚠T 1	4110984	TRANSFORMER, POWER
		COILS
L 2	4110977	COIL
L 3	4110978	COIL
L 4	4110979	COIL 10UH
L 6	4110979	COIL 10UH

SYMBOL-NO	P-NO	DESCRIPTION
⚠L 7	4110981	COIL 18MH
L 8	4110982	COIL
L 9	4110982	COIL
L10	4110982	COIL
L11	4110982	COIL
		MISCELLANEOUS
⚠F1	4110974	FUSE 2A 250V

SYMBOL-NO	P-NO	DESCRIPTION

REPLACEMENT PARTS LIST 【For HKN】

1. MECHANICAL PARTS LIST

SYMBOL-NO	P-NO	DESCRIPTION
		FOR FINAL ASSEMBLY
101	6009464	COVER, TOP
102	6009477	COVER, BOTTOM
103	4731185	PANEL, FRONT
104	4725892	DOOR, CASSETTE
106	4752212	KNOB
⚠107	5852851	CORD, POWER
110	6680291	INSULATOR
111	6680292	INSULATOR
112	4590321	STOPPER, DOOR
115	4731335	PANEL, REAR
118	1730511	TUNER IF UNIT
120	5589682	RF CONVERTER
123	5886821	CABLE
126	6551851	SPRING, DOOR
128	4842811	PLATE
131	6562924	RUBBER
133	6562928	RUBBER
138	7429641	BRACKET
140	6529132	PLATE
142	5604823	SWITCH
143	4896692	BRACKET
144	4587161	DUMPER
145	4751981	BOTTOM
146	6408471	ARM
148	4826591	PLATE
149	6554121	SPRING
202	6500761	MOTOR, LOADING
203	6441371	GEAR
204	6441392	GEAR
205	6441403	GEAR
206	6441381	GEAR
207	6823133	ARM
208	6823171	ARM, OPERATION
209	6441421	GEAR
210	6500321	BRACKET
211	6558551	SPRING
212	6405181	GEAR
213	7788347	WASHER
214	6405191	GEAR
215	6401445	ARM
216	6522979	SPRING
217	6500841	WASHER
218	6441433	GEAR, CHANGE
219	6522978	SPRING
220	6823183	ARM
221	6441411	GEAR
222	6823314	ARM
223	6416631	REEL, TABLE(S)
224	6416652	REEL, TABLE(T)
225	4583333	WASHER
226	6823195	ARM, BRAKE(R)
227	6823229	ARM, BRAKE(L)
228	6318613	SPRING
229	6823271	BRAKE
230	6823261	BRAKE
231	6500414	ARM
232	6823251	GEAR
233	6823292	BRAKE
234	6558452	SPRING
236	6638942	BASE, GUIDE ROLLER(I)
237	4589471	GUIDE ROLLER
238	6638954	BASE, GUIDE ROLLER(O)
239	6500505	GEAR, LOADING(L)
240	6500464	GEAR, LOADING(R)
241	6823536	GEAR, MODE
242	6500549	BRACKET
243	6823541	GEAR
244	6823333	PULLEY
245	6500841	WASHER
246	1470083	DC MOTOR
247	6358101	BELT
248	6823423	ARM
249	6553361	SPRING
250	6823435	ARM
251	6553301	SPRING
252	6823473	BAND, TENSION
253	6823511	SHAFT
254	6500684	ARM, TENSION
255	6553352	SPRING
256	6638934	ARM
257	6823521	GEAR, CAM
258	6823445	BRACKET
259	6500431	ROLLER, PRESSURE
260	5434151	HEAD, AUDIO CONTROL
261	6500593	BASE, AC HEAD
262	6304906	SPRING
263	6553151	SPRING
264	7785673	NUT
265	6638903	BASE, CYLINDER
267	5794062	BRUSH
268	5423071	HEAD, FULL ERASE
269	6823462	BASE, HEAD
270	6500705	BRACKET
271	6558502	SPRING
274	6320576	SPRING
275	6816211	WORM
402	6823613	BRACKET
403	6823621	GEAR
404	6823631	GEAR
405	6823642	ARM
406	6823652	ARM
407	6558531	SPRING
408	6500612	BRACKET
409	6500622	HOLDER
410	6823691	ARM
411	6558541	SPRING
412	6558561	SPRING
413	6823663	ARM
414	6500672	BRACKET
415	6823701	HOLDER
501	5435722	CYLINDE, UPPER (CY-G6S2)
502	5435712	CYLINDER, ASSY (CY-G6S2)
901	8699410	SCREW(3X10)
902	8699412	SCREW (3X12) BLACK
903	7781582	FALT SCREW-3MMDX10MM(BLACK)
904	8699414	SCREW(3X14)
905	8741406	SCREW(3X6)
908	7781138	SCREW(3X10BT)
909	8691308	SCREW BT2.6MMDX8MM
910	8691305	SCREW(2.6X5)
915	0671305	DT SCREW-2.6MMDX5MM
951	0711304	SCREW(2.6X4)
952	0711312	PAN HEAD SCREW - 2.6MMD X 12MM
953	8691306	BT SCREW 2.6MM
954	0711306	PAN HEAD SCREW-2.6MMDX6MM
955	7773741	SCREW
956	45281813	SCREW

SYMBOL-NO	P-NO	DESCRIPTION
957	7775582	SCREW
958	7773761	SCREW
959	8741408	SCREW (B3X8)
960	8650914	SCREW(2.6X14)
991	7784131	SCREW(3X8)
		FOR ACCESARIES
802	5616384	REMOTE HAND SET
803	5861281	MINI CONNECTOR
804	5699421	SOCKT
805	5856023	CORD
851	4952451	CUSHION(F)
852	4952461	CUSHION(B)
853	4929272	BOX, CARTON

SYMBOL-NO	P-NO	DESCRIPTION

2. ELECTRICAL PARTS LIST

If the values are different from those in the schematic diagrams, use the parts in this parts list.

SYMBOL-NO	P-NO	DESCRIPTION
		CAPACITORS
C0201	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0202	0800038	ELECTROLYTIC 47UF 6.3V
C0203	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0204	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0205	0893082	CERAMIC CHIP 0.022UF
C0207	0800072	ELECTROLYTIC 470UF 6.3V
C0208	0800175	ELECTROLYTIC 1.0UF 50V
C0209	0800015	ELECTROLYTIC 10UF 16V
C0210	0800072	ELECTROLYTIC 470UF 6.3V
C0212	0800015	ELECTROLYTIC 10UF 16V
C0213	0209893	CERAMIC CHIP 22PF+-10% 50V
C0215	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0216	0209899	CERAMIC DISC 120PF+-5% 50V
C0217	0209854	CERAMIC DISC 330PF+-5% 50V
C0218	0209854	CERAMIC DISC 330PF+-5% 50V
C0219	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0220	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0221	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0222	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0223	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0224	0880017	POLYESTER FILM 0.15UF+-10% 50V
C0225	0209856	CERAMIC DISC 220PF+-5% 50V
C0226	0209896	CERAMIC CHIP 47PF+-5% 50V
C0227	0209848	CERAMIC DISC 150PF+-5% 50V
C0228	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0229	0893082	CERAMIC CHIP 0.022UF
C0230	0800038	ELECTROLYTIC 47UF 6.3V
C0231	0209852	CERAMIC CHIP 180PF+-5% 50V
C0232	0209903	CERAMIC CHIP 470PF+-5% 50V
C0239	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0240	0209847	CERAMIC CHIP 82PF+-10% 50V
C0241	0209896	CERAMIC CHIP 47PF+-5% 50V
C0242	0209854	CERAMIC DISC 330PF+-5% 50V
C0243	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0244	0800179	ELECTROLYTIC 10UF 16V
C0245	0209897	CERAMIC CHIP 56PF+-5% 50V
C0246	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0247	0800179	ELECTROLYTIC 10UF 16V
C0248	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0249	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0250	0800038	ELECTROLYTIC 47UF 6.3V
C0251	0893082	CERAMIC CHIP 0.022UF
C0255	0800038	ELECTROLYTIC 47UF 6.3V
C0256	0209935	CERAMIC CHIP 27PF+-5% 50V
C0257	0209940	CERAMIC CHIP 68PF+-5% 50V
C0258	0209942	CERAMIC CHIP 100PF+-5% 50V
C0261	0209940	CERAMIC CHIP 68PF+-5% 50V
C0262	0209941	CERAMIC DISC 82PF+-5%
C0263	0893082	CERAMIC CHIP 0.022UF
C0264	0893082	CERAMIC CHIP 0.022UF
C0265	0800177	ELECTROLYTIC 3.3UF 50V
C0267	0893082	CERAMIC CHIP 0.022UF
C0274	0209854	CERAMIC DISC 330PF+-5% 50V
C0275	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0276	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0277	0800185	ELECTROLYTIC 47UF 6.3V
C0278	0893082	CERAMIC CHIP 0.022UF
C0279	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0280	0893082	CERAMIC CHIP 0.022UF
C0281	0209851	CERAMIC DISC 15PF+-5% 50V
C0282	0209851	CERAMIC DISC 15PF+-5% 50V(JU,HKN)
C0283	0207444	ELECTROLYTIC 1.0UF 50V
C1201	0893018	CERAMIC CHIP 0.022UF+-10% 25V
C1202	0800178	ELECTROLYTIC 4.7UF 35V
C1203	0209940	CERAMIC CHIP 68PF+-5% 50V
C1204	0209941	CERAMIC DISC 82PF+-5%
C1205	0209928	CERAMIC DISC 8PF+-5% 50V
C1206	0800109	ELECTROLYTIC 1.0UF 50V
C1207	0890045	CERAMIC DISC 0.047UF+80-20% 50V
C1208	0800109	ELECTROLYTIC 1.0UF 50V
C1209	0800109	ELECTROLYTIC 1.0UF 50V
C1210	0209941	CERAMIC DISC 82PF+-5%(JU,HKN)
C1211	0800047	ELECTROLYTIC 100UF 6.3V
C1212	0893065	CERAMIC CHIP 0.047UF+80-20% 25V
C1213	0209933	CERAMIC CHIP 18PF+-5% 50V
C1214	0209940	CERAMIC CHIP 68PF+-5% 50V
C1215	0209934	CERAMIC CHIP 22PF+-5% 50V
C1216	0800141	ELECTROLYTIC 47UF 16V
C1217	0209938	CERAMIC CHIP 47PF+-5% 50V(JU,HKN)
C1218	0209938	CERAMIC CHIP 47PF+-5% 50V
C1219	0207444	ELECTROLYTIC 1.0UF 50V
C1220	0893065	CERAMIC CHIP 0.047UF+80-20% 25V
C1221	0800141	ELECTROLYTIC 47UF 16V
C1222	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C1224	0800117	ELECTROLYTIC 4.7UF 25V
C1251	0209848	CERAMIC DISC 150PF+-5% 50V
C1253	0893062	CERAMIC CHIP 1UF+80-20% 16V
C1301	0209898	CERAMIC CHIP 100PF+-5% 50V
C1302	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1303	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1304	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1305	0800179	ELECTROLYTIC 10UF 16V
C1306	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1307	0800022	ELECTROLYTIC 22UF 10V
C1308	0880012	POLYESTER FILM 0.022UF+-10% 50V
C1309	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1310	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1311	0800064	ELECTROLYTIC 330UF 6.3V
C1312	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1313	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1314	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1315	0800009	ELECTROLYTIC 4.7UF 25V
C1316	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1317	0800015	ELECTROLYTIC 10UF 16V
C1318	0209896	CERAMIC CHIP 47PF+-5% 50V
C1319	0880016	POLYESTER FILM 0.1UF+-10% 50V
C1320	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1321	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1322	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1323	0800038	ELECTROLYTIC 47UF 6.3V
C1325	0209900	CERAMIC CHIP 270PF+-5% 50V
C1326	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1341	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1401	0209930	CERAMIC CHIP 10PF+-0.5% 50V
C1402	0209933	CERAMIC CHIP 18PF+-5% 50V
C1403	0209930	CERAMIC CHIP 10PF+-0.5% 50V
C1404	0209933	CERAMIC CHIP 18PF+-5% 50V
C1406	0209936	CERAMIC CHIP 33PF+-5% 50V
C1407	0800186	ELECTROLYTIC 47UF 16V
C1409	0893055	CERAMIC CHIP 0.1UF+80-20% 16V
C1410	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C1411	0800057	ELECTROLYTIC 220UF 10V
C1412	0893018	CERAMIC CHIP 0.022UF+-10% 25V
C1413	0207456	ELECTROLYTIC 1UF 50V
C1414	0893031	CERAMIC CHIP 1000PF+-10% 50V
C1415	0800003	ELECTROLYTIC 1UF 50V
C1416	0209852	CERAMIC CHIP 180PF+-5% 50V

SYMBOL-NO	P-NO	DESCRIPTION
C1417	0207456	ELECTROLYTIC 1UF 50V
C1418	0893032	CERAMIC CHIP 1200PF+-10% 50V
C1419	0893042	CERAMIC CHIP 6800PF+-10% 50V
C1420	0209929	CERAMIC CHIP 9.0PF+-0.5% 50V
C1421	0209929	CERAMIC CHIP 9.0PF+-0.5% 50V
C1423	0209894	CERAMIC CHIP 27PF+-10% 50V
C1701	0890043	CERAMIC DISC 0.01UF+-20% 16V
C1702	0800183	ELECTROLYTIC 330UF 10V
C1801	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C1802	0800041	ELECTROLYTIC 47UF 16V
C1803	0209903	CERAMIC CHIP 470PF+-5% 50V
C1804	0209934	CERAMIC CHIP 22PF+-5% 50V
C1805	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C1806	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C1807	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C1808	0800015	ELECTROLYTIC 10UF 16V
C1810	0893031	CERAMIC CHIP 1000PF+-10% 50V
C1812	0893031	CERAMIC CHIP 1000PF+-10% 50V
C1813	0800041	ELECTROLYTIC 47UF 16V
C1814	0800041	ELECTROLYTIC 47UF 16V
C1817	0207458	ELECTROLYTIC 10UF 25V
C1818	0207458	ELECTROLYTIC 10UF 25V
C1821	0207458	ELECTROLYTIC 10UF 25V
C1822	0207458	ELECTROLYTIC 10UF 25V
C1823	0800041	ELECTROLYTIC 47UF 16V
C1824	0207457	ELECTROLYTIC 4.7UF 50V
C1825	0800041	ELECTROLYTIC 47UF 16V
C1826	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C1827	0800041	ELECTROLYTIC 47UF 16V
C1828	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C1829	0800015	ELECTROLYTIC 10UF 16V
C1830	0207458	ELECTROLYTIC 10UF 25V
C1831	0800003	ELECTROLYTIC 1UF 50V
C1832	0800003	ELECTROLYTIC 1UF 50V
C1833	0893031	CERAMIC CHIP 1000PF+-10% 50V
C1834	0800041	ELECTROLYTIC 47UF 16V
C1839	0209856	CERAMIC DISC 220PF+-5% 50V
C2101	0890045	CERAMIC DISC 0.047UF+80-20% 50V
C2283	0800185	ELECTROLYTIC 47UF 6.3V
C2284	0800179	ELECTROLYTIC 10UF 16V
C2285	0800179	ELECTROLYTIC 10UF 16V
C2287	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C2301	0800185	ELECTROLYTIC 47UF 6.3V
C2302	0893084	CERAMIC CHIP 0.047UF+80-20% 50V
C2303	0800177	ELECTROLYTIC 3.3UF 50V
C2305	0209853	CERAMIC DISC 68PF+-5% 50V
C2306	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C2307	0880011	POLYESTER FILM 0.015UF+-10% 50V
C2308	0800179	ELECTROLYTIC 10UF 16V
C2309	0800183	ELECTROLYTIC 330UF 10V
C2311	0209894	CERAMIC CHIP 27PF+-10% 50V
C2312	0209894	CERAMIC CHIP 27PF+-10% 50V
C2313	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C2314	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C2315	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C2316	0880008	POLYESTER FILM 6800PF+-10% 50V
C2317	0880014	POLYESTER FILM 0.047UF+-10% 50V
C2318	0800015	ELECTROLYTIC 10UF 16V
C2507	0800049	ELECTROLYTIC 100UF 16V
C2508	0800048	ELECTROLYTIC 100UF 10V
C2509N	0207406	ELECTROLYTIC 10UF 10V
C2509P	0207406	ELECTROLYTIC 10UF 10V
C2510N	0800039	ELECTROLYTIC 47UF 10V
C2510P	0800039	ELECTROLYTIC 47UF 10V
C2511	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C2512	0800041	ELECTROLYTIC 47UF 16V
C2514	0800178	ELECTROLYTIC 4.7UF 35V
C2515	0800074	ELECTROLYTIC 470UF 16V
C2516	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C2517	0800012	ELECTROLYTIC 4.7UF 50V
C2518	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C2519	0893018	CERAMIC CHIP 0.022UF+-10% 25V
C2520	0800186	ELECTROLYTIC 47UF 16V
C2521	0800103	ELECTROLYTIC 0.22UF 50V
C2522	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C2523	0800041	ELECTROLYTIC 47UF 16V
C2524	0800039	ELECTROLYTIC 47UF 10V
C2529	0207454	ELECTROLYTIC 47UF 10V
C2530	0800041	ELECTROLYTIC 47UF 16V
C2531	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C2532	0800039	ELECTROLYTIC 47UF 10V
C2533	0800039	ELECTROLYTIC 47UF 10V
C2534	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C2535	0800039	ELECTROLYTIC 47UF 10V
C2539	0209894	CERAMIC CHIP 27PF+-10% 50V
C3201	0893084	CERAMIC CHIP 0.047UF+80-20% 50V
C3202	0800185	ELECTROLYTIC 47UF 6.3V
C3203	0893084	CERAMIC CHIP 0.047UF+80-20% 50V
C3204	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C3205	0209895	CERAMIC CHIP 39PF+-5% 50V
C3206	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C3207	0893084	CERAMIC CHIP 0.047UF+80-20% 50V
C3208	0800179	ELECTROLYTIC 10UF 16V
C3209	0800178	ELECTROLYTIC 4.7UF 35V
C3210	0209896	CERAMIC CHIP 47PF+-5% 50V
C3211	0800176	ELECTROLYTIC 2.2UF 50V
C3212	0893086	CERAMIC CHIP 0.1UF+80-20% 50V
C3213	0209848	CERAMIC DISC 150PF+-5% 50V
C3214	0209895	CERAMIC CHIP 39PF+-5% 50V
C3215	0893033	CERAMIC CHIP 1500PF+-10% 50V
C401	0800032	ELECTROLYTIC 33UF 16V
C402	0893037	CERAMIC CHIP 3300PF+-10% 50V
C403	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C404	0268449	MYLAR 0.047UF+-5% 50V
C405	0209856	CERAMIC DISC 220PF+-5% 50V
C406	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C407	0800041	ELECTROLYTIC 47UF 16V
C409	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C410	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C411	0893017	CERAMIC CHIP 0.018UF+-10% 25V
C412	0209906	CERAMIC DISC 820PF+-5% 50V
C413	0893037	CERAMIC CHIP 3300PF+-10% 50V
C414	0800022	ELECTROLYTIC 22UF 10V
C415	0880011	POLYESTER FILM 0.015UF+-10% 50V
C416	0800128	ELECTROLYTIC 22UF 16V
C417	0800122	ELECTROLYTIC 10UF 16V
C418	0800122	ELECTROLYTIC 10UF 16V
C420	0800122	ELECTROLYTIC 10UF 16V
C421	0800122	ELECTROLYTIC 10UF 16V
C422	0209904	CERAMIC DISC 560PF+-5% 50V
C4501	0255138	ELECTROLYTIC 470UF 6.3V
C471LR	0207458	ELECTROLYTIC 10UF 25V
C474LR	0800176	ELECTROLYTIC 2.2UF 50V
C475LR	0800175	ELECTROLYTIC 1.0UF 50V
C477	0800011	ELECTROLYTIC 4.7UF 35V
C478	0800038	ELECTROLYTIC 47UF 6.3V
C479	0207457	ELECTROLYTIC 4.7UF 50V
C483LR	0893035	CERAMIC CHIP 2200PF+-10% 50V
C484	0893018	CERAMIC CHIP 0.022UF+-10% 25V
C485	0209942	CERAMIC CHIP 100PF+-5% 50V

SYMBOL-NO	P-NO	DESCRIPTION
C486	0209933	CERAMIC CHIP 18PF+-5% 50V
C491	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C501	0800051	ELECTROLYTIC 100UF 25V
C502	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C503L	0800118	ELECTROLYTIC 4.7UF 35V
C503R	0800118	ELECTROLYTIC 4.7UF 35V
C504L	0800118	ELECTROLYTIC 4.7UF 35V
C504R	0800118	ELECTROLYTIC 4.7UF 35V
C508L	0800032	ELECTROLYTIC 33UF 16V
C508R	0800183	ELECTROLYTIC 330UF 10V
C509L	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C509R	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C510L	0800112	ELECTROLYTIC 2.2UF 50V
C510R	0800112	ELECTROLYTIC 2.2UF 50V
C511L	0800041	ELECTROLYTIC 47UF 16V
C511R	0800141	ELECTROLYTIC 47UF 16V
C512L	0880011	POLYESTER FILM 0.015UF+-10% 50V
C512R	0880011	POLYESTER FILM 0.015UF+-10% 50V
C513	0800127	ELECTROLYTIC 220UF 10V
C514L	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C514R	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C515L	0893031	CERAMIC CHIP 1000PF+-10% 50V
C515R	0893031	CERAMIC CHIP 1000PF+-10% 50V
C516L	0800048	ELECTROLYTIC 100UF 10V
C516R	0800048	ELECTROLYTIC 100UF 10V
C517L	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C517R	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C518	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C519	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C520	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C521	0800139	ELECTROLYITC 47UF 10V
C522	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C523	0893013	CERAMIC CHIP 0.22UF+-10% 16V
C524	0209900	CERAMIC CHIP 270PF+-5% 50V
C530	0800041	ELECTROLYTIC 47UF 16V
C531	0800122	ELECTROLYTIC 10UF 16V
C532	0893039	CERAMIC CHIP 4700PF+-10% 50V
C534	0800122	ELECTROLYTIC 10UF 16V
C536	0800122	ELECTROLYTIC 10UF 16V
C539	0207457	ELECTROLYTIC 4.7UF 50V
C543	0209853	CERAMIC DISC 68PF+-5% 50V
C548	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C550L	0800118	ELECTROLYTIC 4.7UF 35V
C550R	0800118	ELECTROLYTIC 4.7UF 35V
C552	0800118	ELECTROLYTIC 4.7UF 35V
C601	0893031	CERAMIC CHIP 1000PF+-10% 50V
C602	0800031	ELECTROLYTIC 33UF 10V
C603	0800179	ELECTROLYTIC 10UF 16V
C604	0209893	CERAMIC CHIP 22PF+-10% 50V
C606	0893037	CERAMIC CHIP 3300PF+-10% 50V
C607	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C608	0893018	CERAMIC CHIP 0.022UF+-10% 25V
C609	0209903	CERAMIC CHIP 470PF+-5% 50V
C611	0880018	POLYESTER FILM 0.22UF+-10% 50V
C612	0800005	ELECTROLYTIC 2.2UF 50V
C613	0207456	ELECTROLYTIC 1UF 50V
C614	0893051	CERAMIC CHIP 0.033UF+-10% 50V
C615	0207459	ELECTROLYTIC 0.47UF 50V
C616	0254454	ELECTROLYTIC 10UF 16V
C617	0893016	CERAMIC CHIP 0.015UF+-10% 25V
C618	0800015	ELECTROLYTIC 10UF 16V
C619	0893033	CERAMIC CHIP 1500PF+-10% 50V
C620	0207401	ELECTROLYTIC 0.33UF 50V
C621	0893018	CERAMIC CHIP 0.022UF+-10% 25V
C622	0800047	ELECTROLYTIC 100UF 6.3V

SYMBOL-NO	P-NO	DESCRIPTION
C623	0800179	ELECTROLYTIC 10UF 16V
C624	0209854	CERAMIC DISC 330PF+-5% 50V
C625	0800179	ELECTROLYTIC 10UF 16V
C626	0209899	CERAMIC DISC 120PF+-5% 50V
C627	0893018	CERAMIC CHIP 0.022UF+-10% 25V
C628	0800182	ELECTROLYTIC 22UF 16V
C630	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C631	0209936	CERAMIC CHIP 33PF+-5% 50V
C632	0893031	CERAMIC CHIP 1000PF+-10% 50V
C633	0209940	CERAMIC CHIP 68PF+-5% 50V
C634	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C635	0890043	CERAMIC DISC 0.01UF+-20% 16V
C636	0890043	CERAMIC DISC 0.01UF+-20% 16V
C640	0893025	CERAMIC CHIP 0.068UF+-10% 25V
C641	0893039	CERAMIC CHIP 4700PF+-10% 50V
C642	0890039	CERAMIC DISC 4700PF+-20% 16V
C646	0800176	ELECTROLYTIC 2.2UF 50V
C647	0800186	ELECTROLYTIC 47UF 16V
C650	0207406	ELECTROLYTIC 10UF 10V
C701	0890024	CERAMIC DISC 150PF+-10% 50V
C702	0890043	CERAMIC DISC 0.01UF+-20% 16V
C703	0800186	ELECTROLYTIC 47UF 16V
C901	0209856	CERAMIC DISC 220PF+-5% 50V
C903	0209856	CERAMIC DISC 220PF+-5% 50V
C904	0209846	CERAMIC CHIP 33PF+-10% 50V
C905	0209856	CERAMIC DISC 220PF+-5% 50V
C906	0209846	CERAMIC CHIP 33PF+-10% 50V
C908	0209854	CERAMIC DISC 330PF+-5% 50V
C912	0209848	CERAMIC DISC 150PF+-5% 50V
C913	0209848	CERAMIC DISC 150PF+-5% 50V
C917	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C918	0800038	ELECTROLYTIC 47UF 6.3V
C919	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C922	0209935	CERAMIC CHIP 27PF+-5% 50V
C923	0209932	CERAMIC CHIP 15PF+-5% 50V
C924	0800038	ELECTROLYTIC 47UF 6.3V
C925	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C926	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C927	0800038	ELECTROLYTIC 47UF 6.3V
C928	0217516	CAPACITOR 0.047F+80-20% 5V
C929	0800003	ELECTROLYTIC 1UF 50V
C930	0800003	ELECTROLYTIC 1UF 50V
C931	0209898	CERAMIC CHIP 100PF+-5% 50V
C932	0893031	CERAMIC CHIP 1000PF+-10% 50V
C933	0893031	CERAMIC CHIP 1000PF+-10% 50V
C934	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C935	0893018	CERAMIC CHIP 0.022UF+-10% 25V
C936	0800033	ELECTROLYTIC 33UF 25V
C937	0893018	CERAMIC CHIP 0.022UF+-10% 25V
C939	0800183	ELECTROLYTIC 33UF 10V
C940	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C941	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C942	0893018	CERAMIC CHIP 0.022UF+-10% 25V
C944	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C946	0893055	CERAMIC CHIP 0.1UF+80-20% 16V
C950	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C951	0209856	CERAMIC DISC 220PF+-5% 50V
CT1401	5058495	TRIMMER CAPACITOR
		RESISTORS
R0201	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0202	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0203	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0204	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W

SYMBOL-NO	P-NO	DESCRIPTION	SYMBOL-NO	P-NO	DESCRIPTION
R0205	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W	R0283	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0206	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W	R0284	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R0207	0103840	CHIP RESISTOR 560 OHM+-5% 0.1W	R0285	0103836	CHIP RESISTOR 270 OHM+-5% 0.1W
R0208	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W	R0286	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R0209	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W	R0287	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R0210	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W	R0288	0103857	CHIP RESISTOR 15KOHM+-5% 0.1W
R0211	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W	R0289	0103831	CHIP RESISTOR 100 OHM+-5% 0.1W
R0212	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W	R0290	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R0213	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W	R0291	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R0214	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W	R0292	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R0216	0103854	CHIP RESISTOR 8.2KOHM+-5% 0.1W	R0293	0103857	CHIP RESISTOR 15KOHM+-5% 0.1W
R0217	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W	R0294	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0218	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W	R0296	0103846	CHIP RESISTOR 1.8KOHM+-5% 0.1W
R0219	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W	R0297	0700036	CARBON FILM 470 OHM+-5% 1/8W
R0220	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W	R0298	0103853	CHIP RESISTOR 6.8KOHM+-5% 0.1W
R0221	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W	R1201	0700032	CARBON FILM 220 OHM+-5% 1/8W
R0223	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W	R1202	0103839	CHIP RESISTOR 4700HM+-5% 0.1W
R0224	0103849	CHIP RESISTOR 3.3KOHM+-5% 0.1W	R1203	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R0225	0103845	CHIP RESISTOR 1.5KOHM+-5% 0.1W	R1205	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R0226	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W	R1206	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R0227	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W	R1207	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0228	0103857	CHIP RESISTOR 15KOHM+-5% 0.1W	R1208	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R0229	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W	R1209	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W
R0230	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W	R1210	0103860	CHIP RESISTOR 27KOHM+-5% 0.1W
R0231	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W	R1211	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R0232	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W	R1212	0103848	CHIP RESISTOR 2.7KOHM+-5% 0.1W
R0234	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W	R1213	0103834	CHIP RESISTOR 1800HM+-5% 0.1W
R0235	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W	R1215	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R0236	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W	R1216	01038253	CHIP RESISTOR 330HM+-5% 0.1W
R0237	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W	R1217	0103846	CHIP RESISTOR 1.8KOHM+-5% 0.1W
R0238	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W	R1218	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W
R0239	0103845	CHIP RESISTOR 1.5KOHM+-5% 0.1W	R1219	0103837	CHIP RESISTOR 330 OHM+-5% 0.1W
R0240	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W	R1220	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0242	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W	R1221	01038813	CHIP RESISTOR 2.2MOHM+-10% 0.1W
R0244	0103860	CHIP RESISTOR 27KOHM+-5% 0.1W	R1251	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R0245	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W	R1252	0700038	CARBON FILM 6800HM+-5% 1/8W
R0248	0103865	CHIP RESISTOR 68KOHM+-5% 0.1W	R1253	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R0249	0700048	CARBON FILM 3.9KOHM+-5% 1/8W	R1254	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W
R0250	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W	R1255	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R0251	0103858	CHIP RESISTOR 18KOHM+-5% 0.1W	R1256	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0252	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W	R1301	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R0253	0103833	CHIP RESISTOR 150 OHM+-5% 0.1W	R1302	0103839	CHIP RESISTOR 4700HM+-5% 0.1W
R0254	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W	R1303	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0256	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W	R1304	0103832	CHIP RESISTOR 1200HM+-5% 0.1W
R0257	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W	R1305	0103845	CHIP RESISTOR 1.5KOHM+-5% 0.1W
R0258	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W	R1306	0103865	CHIP RESISTOR 68KOHM+-5% 0.1W
R0259	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W	R1307	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0260	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W	R1308	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0261	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W	R1309	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R0262	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W	R1310	0103853	CHIP RESISTOR 6.8KOHM+-5% 0.1W
R0263	0103840	CHIP RESISTOR 560 OHM+-5% 0.1W	R1311	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R0264	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W	R1312	0103853	CHIP RESISTOR 6.8KOHM+-5% 0.1W
R0265	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W	R1313	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0266	0103857	CHIP RESISTOR 15KOHM+-5% 0.1W	R1314	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0267	0103857	CHIP RESISTOR 15KOHM+-5% 0.1W	R1315	0103830	CHIP RESISTOR 820HM+-5% 0.1W
R0268	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W	R1316	0103840	CHIP RESISTOR 560 OHM+-5% 0.1W
R0269	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W	R1317	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0270	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W	R1318	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0271	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W	R1319	0103839	CHIP RESISTOR 4700HM+-5% 0.1W
R0272	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W	R1320	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0278	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W	R1401	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0279	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W	R1404	0103832	CHIP RESISTOR 1200HM+-5% 0.1W
R0280	0103836	CHIP RESISTOR 270 OHM+-5% 0.1W	R1405	0103858	CHIP RESISTOR 18KOHM+-5% 0.1W
R0281	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W	R1406	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0282	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W	R1408	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W

SYMBOL-NO	P-NO	DESCRIPTION
R1409	0103845	CHIP RESISTOR 1.5KOHM+-5% 0.1W
R1411	0103853	CHIP RESISTOR 6.8KOHM+-5% 0.1W
R1412	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1413	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W
R1499	0103845	CHIP RESISTOR 1.5KOHM+-5% 0.1W
R1701	0700032	CARBON FILM 220 OHM+-5% 1/8W
R1702	0700037	CARBON FILM 560OHM+-5% 1/8W
R1703	0700037	CARBON FILM 560OHM+-5% 1/8W
R1704	0700033	CARBON FILM 270OHM+-5% 1/8W
R1705	0700033	CARBON FILM 270OHM+-5% 1/8W
R1706	0700033	CARBON FILM 270OHM+-5% 1/8W
R1707	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R1708	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R1802	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1803	0103825	CHIP RESISTOR 33OHM+-5% 0.1W
R1804	0103831	CHIP RESISTOR 100 OHM+-5% 0.1W
R1805	0103848	CHIP RESISTOR 2.7KOHM+-5% 0.1W
R1806	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1807	0103848	CHIP RESISTOR 2.7KOHM+-5% 0.1W
R1811	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R1812	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1814	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1817	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R1818	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1820	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1821	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R1822	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R1823	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1824	0103860	CHIP RESISTOR 27KOHM+-5% 0.1W
R1825	0103830	CHIP RESISTOR 82OHM+-5% 0.1W
R1826	0103854	CHIP RESISTOR 8.2KOHM+-5% 0.1W
R1827	0103834	CHIP RESISTOR 180OHM+-5% 0.1W
R1828	0103823	CHIP RESISTOR 22OHM+-5% 0.1W
R1829	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R1832	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1833	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1835	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R1840	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W
R1889	0103839	CHIP RESISTOR 470OHM+-5% 0.1W
R1891	0103839	CHIP RESISTOR 470OHM+-5% 0.1W
R1892	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R2296	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R2297	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R2298	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R2299	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R2301	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W
R2302	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R2303	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R2304	01038303	CHIP RESISTOR 82OHM+-5% 0.1W
R2305	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R2306	0103869	CHIP RESISTOR 150KOHM+-5% 0.1W
R2307	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R2308	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R2309	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R2310	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R2311	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R2312	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R2313	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W
R2314	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R2315	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R2318	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R2319	0103839	CHIP RESISTOR 470OHM+-5% 0.1W
R2320	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R2321	0101868	CARBON FILM 4.7MOHM+-5% 1/4W
R2322	0101868	CARBON FILM 4.7MOHM+-5% 1/4W
R2502L	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W
R2502R	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W
R2521	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R2522	0103832	CHIP RESISTOR 120OHM+-5% 0.1W
R2523	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R2524	0700045	CARBON FILM 2.2KOHM+-5% 1/8W
R2525	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R2526	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R2527	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R2528	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R2531	0103832	CHIP RESISTOR 120OHM+-5% 0.1W
R2532	0103872	CHIP RESISTOR 270KOHM+-5% 0.1W
R2533	0103874	CHIP RESISTOR 390KOHM+-5% 0.1W
R2539	0101838	CARBON FILM 2.7KOHM+-5% 1/4W
R2540N	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R2540P	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R2544	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W
R2545	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W
R2548	0700067	CARBON FILM 100KOHM+-5% 1/8W
R2550	0103857	CHIP RESISTOR 15KOHM+-5% 0.1W
R3201	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W
R3202	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R3203	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R3204	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R3205	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R3206	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R3207	0103857	CHIP RESISTOR 15KOHM+-5% 0.1W
R3208	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R3209	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R3210	0103875	CHIP RESISTOR 470KOHM+-5% 0.1W
R3211	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R3212	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R3213	0700049	CARBON FILM 4.7KOHM+-5% 1/8W
R3214	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R3215	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R401	0103819	CHIP RESISTOR 10 OHM+-5% 0.1W
R402	0103819	CHIP RESISTOR 10 OHM+-5% 0.1W
R404	0103860	CHIP RESISTOR 27KOHM+-5% 0.1W
R405	0103840	CHIP RESISTOR 560 OHM+-5% 0.1W
R406	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R407	0103858	CHIP RESISTOR 18KOHM+-5% 0.1W
R408	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R409	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R410	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R412	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R414	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W
R415	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R416	01038343	CHIP RESISTOR 180OHM+-5% 0.1W
R417	0103860	CHIP RESISTOR 27KOHM+-5% 0.1W
R419	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R420	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R422	0103845	CHIP RESISTOR 1.5KOHM+-5% 0.1W
R424	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R425	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R435	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R437	0103836	CHIP RESISTOR 270 OHM+-5% 0.1W
R438	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W(SSJ)
R438	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W(HEA)
R439	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R440	0103858	CHIP RESISTOR 18KOHM+-5% 0.1W
R441	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R4501	1109023	METAL FILM 75 OHM+-50% 1/8W
R4502	1109023	METAL FILM 75 OHM+-50% 1/8W
R4503	0700033	CARBON FILM 270OHM+-5% 1/8W
R471LR	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W

SYMBOL-NO	P-NO	DESCRIPTION
R480	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R481L	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R481R	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R482LR	0103846	CHIP RESISTOR 1.8KOHM+-5% 0.1W
R486LR	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R487LR	0103854	CHIP RESISTOR 8.2KOHM+-5% 0.1W
R488LR	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W
R490	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R491	0103860	CHIP RESISTOR 27KOHM+-5% 0.1W
R492	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R493	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R494	0700054	CARBON FILM 10KOHM+-5% 1/8W
R495	0103839	CHIP RESISTOR 470OHM+-5% 0.1W
R501L	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R501R	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R502L	0103839	CHIP RESISTOR 470OHM+-5% 0.1W
R502R	0103839	CHIP RESISTOR 470OHM+-5% 0.1W
R503L	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R503R	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R504	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R505L	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R505R	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R506L	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R506R	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R507L	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R507R	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R508L	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R508R	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R509L	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R509R	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R511	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R512	0103831	CHIP RESISTOR 100 OHM+-5% 0.1W
R513	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R514L	0104271	CHIP RESISTOR 15KOHM+-1% 1/10W
R514R	0104124	CHIP RESISTOR 12KOHM+-1% 1/10W
R515L	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R515R	0103849	CHIP RESISTOR 3.3KOHM+-5% 0.1W
R516	01038743	CHIP RESISTOR 390KOHM+-5% 0.1W
R518	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R523	01038703	CHIP RESISTOR 180KOHM+-5% 0.1W
R524	01038733	CHIP RESISTOR 330KOHM+-5% 0.1W
R525	0103848	CHIP RESISTOR 2.7KOHM+-5% 0.1W
R530L	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R530R	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R531L	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R531R	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R532L	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R532R	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R533L	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R533R	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R537	0104123	CHIP RESISTOR 8.2KOHM+-1% 1/10W
R538	0104271	CHIP RESISTOR 15KOHM+-1% 1/10W
R539	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R540	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R547	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R551	0104117	CHIP RESISTOR 82KOHM 1/10W
R556	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R558	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R601	0103840	CHIP RESISTOR 560 OHM+-5% 0.1W
R602	0103840	CHIP RESISTOR 560 OHM+-5% 0.1W
R603	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R604	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W
R605	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R606	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R607	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R608	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R612	0700045	CARBON FILM 2.2KOHM+-5% 1/8W
R613	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R614	0103872	CHIP RESISTOR 270KOHM+-5% 0.1W
R615	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R616	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R617	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R618	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R619	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R620	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R621	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R622	01038683	CHIP RESISTOR 120KOHM+-5% 0.1W
R623	0103865	CHIP RESISTOR 68KOHM+-5% 0.1W
R624	0103858	CHIP RESISTOR 18KOHM+-5% 0.1W
R625	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W
R626	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R627	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R628	0103865	CHIP RESISTOR 68KOHM+-5% 0.1W
R629	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R630	0103857	CHIP RESISTOR 15KOHM+-5% 0.1W
R631	0103854	CHIP RESISTOR 8.2KOHM+-5% 0.1W
R632	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R633	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W
R634	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R636	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R637	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R638	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R639	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R640	0103878	CHIP RESISTOR 820KOHM+-5% 0.1W
R641	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R642	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R643	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R644	0700049	CARBON FILM 4.7KOHM+-5% 1/8W
R650	0103858	CHIP RESISTOR 18KOHM+-5% 0.1W
R651	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R652	0103846	CHIP RESISTOR 1.8KOHM+-5% 0.1W
R653	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R654	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R655	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R656	0103848	CHIP RESISTOR 2.7KOHM+-5% 0.1W
R657	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R658	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R660	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R661	0103876	CHIP RESISTOR 560KOHM+-5% 0.1W
R662	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R663	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R664	0103848	CHIP RESISTOR 2.7KOHM+-5% 0.1W
R665	0103839	CHIP RESISTOR 470OHM+-5% 0.1W
R668	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R669	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R670	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R671	0103839	CHIP RESISTOR 470OHM+-5% 0.1W
R672	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R673	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R702	0101718	RESISTOR 75OHM+-5% 1/6W
R703	0700054	CARBON FILM 10KOHM+-5% 1/8W
R704	0700037	CARBON FILM 560OHM+-5% 1/8W
R705	0700037	CARBON FILM 560OHM+-5% 1/8W
R706	0700034	CARBON FILM 330OHM+-5% 1/8W
R707	0700064	CARBON FILM 56KOHM+-5% 1/8W
R708	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R709	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R710	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R711	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R712	0700041	CARBON FILM 1.0KOHM+-5% 1/8W

SYMBOL-NO	P-NO	DESCRIPTION
R713	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R714	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R715	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R716	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R717	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R718	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R730	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R731	0700054	CARBON FILM 10KOHM+-5% 1/8W
R732	0700063	CARBON FILM 47KOHM+-5% 1/8W
R733	0700063	CARBON FILM 47KOHM+-5% 1/8W
R734	0700063	CARBON FILM 47KOHM+-5% 1/8W
R735	0700063	CARBON FILM 47KOHM+-5% 1/8W
R901	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R902	0103854	CHIP RESISTOR 8.2KOHM+-5% 0.1W
R903	0700035	CARBON FILM 3900HM+-5% 1/8W
R904	0700037	CARBON FILM 5600HM+-5% 1/8W
R905	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R906	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R907	0700028	CARBON FILM 1200HM+-5% 1/8W
R908	0700037	CARBON FILM 5600HM+-5% 1/8W
R909	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R910	01038323	CHIP RESISTOR 1200HM+-5% 0.1W
R911	0103836	CHIP RESISTOR 270 OHM+-5% 0.1W
R912	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R913	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R916	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R917	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R918	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R919	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R920	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R921	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R922	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R923	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R924	0700037	CARBON FILM 5600HM+-5% 1/8W
R925	0700035	CARBON FILM 3900HM+-5% 1/8W
R926	0700033	CARBON FILM 2700HM+-5% 1/8W
R927	0700033	CARBON FILM 2700HM+-5% 1/8W
R928	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R929	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R930	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R931	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R933	0700067	CARBON FILM 100KOHM+-5% 1/8W
R934	0700054	CARBON FILM 10KOHM+-5% 1/8W
R935	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R936	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R937	0700034	CARBON FILM 3300HM+-5% 1/8W
R938	0103837	CHIP RESISTOR 330 OHM+-5% 0.1W
R939	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R940	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R941	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R942	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R943	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R944	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R945	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R946	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R947	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R951	0700063	CARBON FILM 47KOHM+-5% 1/8W
R952	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R953	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R954	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W
R955	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R956	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W
R957	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R958	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R959	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W

SYMBOL-NO	P-NO	DESCRIPTION
R960	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R961	0103831	CHIP RESISTOR 100 OHM+-5% 0.1W
R963	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R964	0700062	CARBON FILM 39KOHM+-5% 1/8W
R965	0700062	CARBON FILM 39KOHM+-5% 1/8W
R966	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R967	0700049	CARBON FILM 4.7KOHM+-5% 1/8W
R968	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R969	0700049	CARBON FILM 4.7KOHM+-5% 1/8W
R970	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R971	0700062	CARBON FILM 39KOHM+-5% 1/8W
R972	0700062	CARBON FILM 39KOHM+-5% 1/8W
R973	0101824	CARBON FILM 180 OHM+-5% 1/4W
R974	0101823	CARBON FILM 1500HM+-5% 1/4W
R975	0700067	CARBON FILM 100KOHM+-5% 1/8W
R976	0101711	FUSE RESISTOR 2.20HM+-5% 1/4W
R977	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R978	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R979	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R980	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W
R981	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R982	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R983	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R984	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R985	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R986	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R987	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R988	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R989	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R990	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R991	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R992	0103858	CHIP RESISTOR 18KOHM+-5% 0.1W
R993	0103849	CHIP RESISTOR 3.3KOHM+-5% 0.1W
R994	0103849	CHIP RESISTOR 3.3KOHM+-5% 0.1W
R995	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R996	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R998	0700033	CARBON FILM 2700HM+-5% 1/8W
R999	0700027	CARBON FILM 100 OHM+-5% 1/8W
RT0201	5030084	TRIMMER 1KOHM
RT1201	5030084	TRIMMER 1KOHM
RT1301	5030084	TRIMMER 1KOHM
RT2301	5030083	SEMI VARIABLE 470 OHM
RT401	5035081	TRIMMER RESISTOR
RT501L	5035077	SEMI VARIABLE 10KOHM
RT501R	5035076	TRIMMER 4.7KOHM
RT502L	5035077	SEMI VARIABLE 10KOHM
RT502R	5035077	SEMI VARIABLE 10KOHM
RT601	5030012	SEMI VARIABLE 220KOHM
		SEMI-CONDUCTORS
D0202	5339141	DIODE 1SS270
D0203	5339141	DIODE 1SS270
D0205	5339141	DIODE 1SS270
D0206	5339551	DIODE SS1J4
D0207	5339141	DIODE 1SS270
D0209	5339141	DIODE 1SS270
D0210	5328303	DIODE MA152WK (MU)
D0211	5339141	DIODE 1SS270
D0212	5328303	DIODE MA152WK (MU)
D0214	5339141	DIODE 1SS270
D0215	5339141	DIODE 1SS270
D0217	5328303	DIODE MA152WK (MU)
D1201	5339141	DIODE 1SS270
D1202	5339141	DIODE 1SS270

SYMBOL-NO	P-NO	DESCRIPTION
D1203	5339551	DIODE SS1J4
D1204	5339141	DIODE 1SS270
D1205	5328321	DIODE MA151K (MH)
D1206	5328321	DIODE MA151K (MH)
D1301	5339141	DIODE 1SS270
D1302	5339141	DIODE 1SS270
D1403	5328321	DIODE MA151K (MH)
D1801	5328303	DIODE MA152WK (MU)
D2101	5380933	LED GL451
D3201	5328303	DIODE MA152WK (MU)
D471	5339141	DIODE 1SS270
D474LR	5339141	DIODE 1SS270
D475	5339141	DIODE 1SS270
D476LR	5339141	DIODE 1SS270
D477	5339141	DIODE 1SS270
D478	5339141	DIODE 1SS270
D479	5328321	DIODE MA151K (MH)
D501	5328321	DIODE MA151K (MH)
D601	5339141	DIODE 1SS270
D602	5339141	DIODE 1SS270
D603	5339141	DIODE 1SS270
D605	5339141	DIODE 1SS270
D606	5339141	DIODE 1SS270
D609	5339141	DIODE 1SS270
D610	5328321	DIODE MA151K (MH)
D706	5339141	DIODE 1SS270
D720	5339551	DIODE SS1J4
D721	5381663	DIODE SLH34VT3
D722	5381661	LED SLH-34MT3
D723	5381663	DIODE SLH34VT3
D903	5339551	DIODE SS1J4
D904	5339551	DIODE SS1J4
D905	5339141	DIODE 1SS270
D906	5339141	DIODE 1SS270
D908	5328321	DIODE MA151K (MH)
IC0201	1374271	MODULE HT7445
IC0203	1346881	IC M52364P
IC1201	1345911	IC TL8828P
IC1202	1350411	IC NJM2235M
IC1301	1346821	IC M51646SP
IC1401	1366721	IC LC74760M8793
IC1701	1396051	IC HD49783FP
IC1801	1365802	IC CF70091A
IC1802	1343511	IC TDA1543
IC1803	5364761	IC BA4560
IC1804	1365812	IC BA3129F
IC1806	1388951	IC AFS816F
IC2101	5327521	PHOTO TRANSISTOR SPI-315-C
IC2102	5327521	PHOTO TRANSISTOR SPI-315-C
IC2202	1350042	IC HA118070FP
IC2301	5366642	IC XRA7025L
IC2303	1352385	IC NJM2903M
IC2501	1341691	IC NJM2234S
IC2503	1351361	IC M5201FP
IC3201	1345891	IC NJM2502L
IC401	5300641	IC BA7755
IC501	1365754	IC AN3961NFBPAA
IC601	1366861	IC HD49781F
IC602	5350601	IC NJM4558D
IC701	1349041	IC UPD16312GB-3B4
IC901	1396062	IC UPD78056-012
IC902	1361212	IC X24C02P
IC903	5300795	IC XRA6209U4
IC904	1340002	IC S-8053ALB
IC905	1354712	IC BU2042F
Q0201	5328796	TRANSISTOR XDC144EK
Q0202	5328796	TRANSISTOR XDC144EK
Q0203	5328796	TRANSISTOR XDC144EK
Q0204	5328971	TRANSISTOR 2SC2412KBRST
Q0205	5328971	TRANSISTOR 2SC2412KBRST
Q0206	5328796	TRANSISTOR XDC144EK
Q0207	5328331	TRANSISTOR 2SB709AR
Q0208	5328971	TRANSISTOR 2SC2412KBRST
Q0209	5328796	TRANSISTOR XDC144EK
Q0210	5328971	TRANSISTOR 2SC2412KBRST
Q0211	5328796	TRANSISTOR XDC144EK
Q0212	5328796	TRANSISTOR XDC144EK
Q0214	5328796	TRANSISTOR XDC144EK
Q0217	5328796	TRANSISTOR XDC144EK
Q0218	5328971	TRANSISTOR 2SC2412KBRST
Q0219	5328796	TRANSISTOR XDC144EK
Q0220	5328797	TRANSISTOR XDA144EK
Q0221	5328796	TRANSISTOR XDC144EK
Q0222	5328971	TRANSISTOR 2SC2412KBRST
Q0223	5328792	TRANSISTOR DTA124K(15)
Q0224	5328971	TRANSISTOR 2SC2412KBRST
Q0225	5328971	TRANSISTOR 2SC2412KBRST
Q0226	5328797	TRANSISTOR XDA144EK
Q0227	5328797	TRANSISTOR XDA144EK
Q0228	5328971	TRANSISTOR 2SC2412KBRST
Q0229	5328971	TRANSISTOR 2SC2412KBRST
Q0230	5328971	TRANSISTOR 2SC2412KBRST
Q0231	5328971	TRANSISTOR 2SC2412KBRST
Q0232	5328971	TRANSISTOR 2SC2412KBRST
Q0234	5328971	TRANSISTOR 2SC2412KBRST
Q0238	5328792	TRANSISTOR DTA124K(15)
Q0239	5328797	TRANSISTOR XDA144EK
Q0243	5328796	TRANSISTOR XDC144EK
Q0244	5328796	TRANSISTOR XDC144EK
Q0245	5328796	TRANSISTOR XDC144EK
Q1201	5328971	TRANSISTOR 2SC2412KBRST
Q1202	5328971	TRANSISTOR 2SC2412KBRST
Q1203	5328331	TRANSISTOR 2SB709AR
Q1204	5328971	TRANSISTOR 2SC2412KBRST
Q1205	5328331	TRANSISTOR 2SB709AR
Q1206	5328331	TRANSISTOR 2SB709AR
Q1251	5328796	TRANSISTOR XDC144EK
Q1252	5328962	TRANSISTOR 2SA1037K
Q1253	5328796	TRANSISTOR XDC144EK
Q1254	1323081	TRANSISTOR 2SA1036K
Q1301	5328971	TRANSISTOR 2SC2412KBRST
Q1302	5328971	TRANSISTOR 2SC2412KBRST
Q1303	5328971	TRANSISTOR 2SC2412KBRST
Q1312	5328792	TRANSISTOR DTA124K(15)
Q1401	5328962	TRANSISTOR 2SA1037K
Q1402	5328971	TRANSISTOR 2SC2412KBRST
Q1403	5328971	TRANSISTOR 2SC2412KBRST
Q1701	5327075	TRANSISTOR XDC144ES
Q1702	5327075	TRANSISTOR XDC144ES
Q1703	5327075	TRANSISTOR XDC144ES
Q1704	5327075	TRANSISTOR XDC144ES
Q1705	5327075	TRANSISTOR XDC144ES
Q1706	5327075	TRANSISTOR XDC144ES
Q1801	5328796	TRANSISTOR XDC144EK
Q1804	5328972	TRANSISTOR 2SC2412K-BRT
Q1805	5328972	TRANSISTOR 2SC2412K-BRT
Q1806	5328972	TRANSISTOR 2SC2412K-BRT
Q2101	5324661	PHOTO TRANSISTOR PT-483F1H
Q2102	5324661	PHOTO TRANSISTOR PT-483F1H
Q2301	5328971	TRANSISTOR 2SC2412KBRST

SYMBOL-NO	P-NO	DESCRIPTION
Q2303	5328971	TRANSISTOR 2SC2412KBRST
Q2304	5328796	TRANSISTOR XDC144EK
Q2501	5328962	TRANSISTOR 2SA1037K
Q2502	5328962	TRANSISTOR 2SA1037K
Q2503	5327091	TRANSISTER 2SD1504E
Q2504	5328796	TRANSISTOR XDC144EK
Q2505	5328797	TRANSISTOR XDA144EK
Q2506	5328796	TRANSISTOR XDC144EK
Q2550	5328796	TRANSISTOR XDC144EK
Q3201	5328796	TRANSISTOR XDC144EK
Q3202	5328971	TRANSISTOR 2SC2412KBRST
Q3203	5328331	TRANSISTOR 2SB709AR
Q3204	5328796	TRANSISTOR XDC144EK
Q401	5327021	TRANSISTOR 2SA844CD
Q402	5327102	TRANSISTOR 2SC3533-BC
Q403	5328971	TRANSISTOR 2SC2412KBRST
Q406	5328796	TRANSISTOR XDC144EK
Q407	5328796	TRANSISTOR XDC144EK
Q408	5328796	TRANSISTOR XDC144EK
Q409	5328796	TRANSISTOR XDC144EK
Q410	5328796	TRANSISTOR XDC144EK(HFA)
Q410	5328797	TRANSISTOR XDA144EK(SSJ)
Q411	5328796	TRANSISTOR XDC144EK
Q412	5328796	TRANSISTOR XDC144EK
Q4501	5324631	TRANSISTOR 2SA1390C
Q471	1323081	TRANSISTOR 2SA1036K
Q472	5328796	TRANSISTOR XDC144EK
Q475L	5328971	TRANSISTOR 2SC2412KBRST
Q475R	5328971	TRANSISTOR 2SC2412KBRST
Q476	5328971	TRANSISTOR 2SC2412KBRST
Q501L	5328971	TRANSISTOR 2SC2412KBRST
Q501R	5328971	TRANSISTOR 2SC2412KBRST
Q502	5328971	TRANSISTOR 2SC2412KBRST
Q505	5328971	TRANSISTOR 2SC2412KBRST
Q510L	5328796	TRANSISTOR XDC144EK
Q510R	5328796	TRANSISTOR XDC144EK
Q511	5328796	TRANSISTOR XDC144EK
Q512	5328796	TRANSISTOR XDC144EK
Q602	5328971	TRANSISTOR 2SC2412KBRST
Q603	5328797	TRANSISTOR XDA144EK
Q605	5328971	TRANSISTOR 2SC2412KBRST
Q606	5327261	TRANSISTOR 2SB1326(Q)
Q607	5328796	TRANSISTOR XDC144EK
Q608	5327261	TRANSISTOR 2SB1326(Q)
Q609	5328796	TRANSISTOR XDC144EK
Q701	5327075	TRANSISTOR XDC144ES
Q702	5327075	TRANSISTOR XDC144ES
Q703	5327075	TRANSISTOR XDC144ES
Q902	5328971	TRANSISTOR 2SC2412KBRST
Q903	5328962	TRANSISTOR 2SA1037K
Q904	5328962	TRANSISTOR 2SA1037K
Q905	5328796	TRANSISTOR XDC144EK
Q906	5328796	TRANSISTOR XDC144EK
Q907	5328797	TRANSISTOR XDA144EK
Q908	5328971	TRANSISTOR 2SC2412KBRST
Q909	5328796	TRANSISTOR XDC144EK
QF601	5721943	IC PROTECTOR
QF602	5721943	IC PROTECTOR
QF603	5721802	IC PROTECTER
TH1201	5340361	THERMISTOR ERTD2FHL
ZD2301	5339251	DIODE HZS2-C3
ZD2503	5339406	DIODE UTZJ30C
ZD601	5339262	DIODE HZS6-C2
ZD602	5339262	DIODE HZS6-C2
ZD701	5339257	DIODE HZS4

SYMBOL-NO	P-NO	DESCRIPTION
ZD902	5339478	DIODE HZA11C
		TRANSFORMER
T401	5261533	TRANSFORMER
		COILS
L0201	0770057	CHOKE COIL 100UH+-5%
L0202	0770057	CHOKE COIL 100UH+-5%
L0203	5159155	CHOKE COIL 120UH+-10%
L0204	5159149	CHOKE COIL 47UH
L0205	5159154	CHOKE COIL 100UH
L0206	5121611	COIL
L0207	5121613	COIL
L0208	5121615	COIL
L0209	5121617	COIL
L0211	5121611	COIL
L0212	5159154	CHOKE COIL 100UH
L0213	5121611	COIL
L0214	5121611	COIL
L0215	5159143	CHOKE COIL 15UH
L0216	5121611	COIL
L0217	5159152	CHOKE COIL 68UH
L0218	5159147	CHOKE COIL 33UH
L0219	5159146	CHOKE COIL 27UH
L0220	5159149	CHOKE COIL 47UH
L1201	0770051	CHOKE COIL 33UH+-5%(SSJ)
L1201	5159149	CHOKE COIL 47UH
L1202	5159149	CHOKE COIL 47UH
L1203	5121611	COIL
L1204	5159146	CHOKE COIL 27UH
L1205	5121581	CHOKE COIL 100UH
L1301	5159155	CHOKE COIL 120UH+-10%
L1302	5121611	COIL
L1303	5159151	CHOKE COIL 56UH
L1304	5121611	COIL
L1305	5159146	CHOKE COIL 27UH
L1401	0770057	CHOKE COIL 100UH+-5%
L1402	5121287	COIL
L1403	5159137	CHOKE COIL 5.6UH+-10%
L1801	5159152	CHOKE COIL 68UH
L1802	0770057	CHOKE COIL 100UH+-5%
L2301	5121611	COIL
L2302	5159147	CHOKE COIL 33UH
L2303	5159147	CHOKE COIL 33UH
L2304	5130431	COIL
L2501	5121294	COIL 100UH
L2502	0770057	CHOKE COIL 100UH+-5%
L2503	0770057	CHOKE COIL 100UH+-5%
L2504	0770057	CHOKE COIL 100UH+-5%
L2505	0770057	CHOKE COIL 100UH+-5%
L2506	5121294	COIL 100UH
L2509	5159136	CHOKE COIL 4.7UH
L3201	5121611	COIL
L401	0770057	CHOKE COIL 100UH+-5%(HFA)
L401	5121615	COIL(SSJ)
L402	5159111	CHOKE COIL 5600UH
L402	5159152	CHOKE COIL 68UH(SSJ)
L501	0770057	CHOKE COIL 100UH+-5%
L502L	0770057	CHOKE COIL 100UH+-5%
L503	0770057	CHOKE COIL 100UH+-5%
L504	0770064	CHOKE COIL 330UH+-5%
L601	0770057	CHOKE COIL 100UH+-5%
L602	0770057	CHOKE COIL 100UH+-5%

SYMBOL-NO	P-NO	DESCRIPTION
L901	5159138	CHOKE COIL 6.8UH
L902	5159142	CHOKE COIL 12UH

CRYSTALS

SYMBOL-NO	P-NO	DESCRIPTION
X0201	5778881	CRYSTAL
X0202	5778871	CRYSTAL
X0203	5778182	CRYSTAL
X1201	5779071	CRYSTAL
X1401	5779251	CRYSTAL
X1402	5781791	CRYSTAL
X1801	5779141	CLYSTAL
X601	5781901	CRYSTAL
X901	5784475	OSCILLATOR
X902	5783003	CRYSTAL

MISCELLANEOUS

SYMBOL-NO	P-NO	DESCRIPTION
CP1301	5165411	FILTER
CP1302	5165403	FILTER
CP1303	5165412	FILTER
CP1304	5165404	FILTER
CP1801	5165391	FILTER
CP2201	5165421	LC FILTER
CP2301	5160431	BAND PASS FILTER
DG701	5315404	FLOURESCENT INDICATOR TUBE
DL0201	5786421	DELAY LINE
DL0202	5785491	DLAY LINE
DL0203	5786451	DELAY LINE
IR701	1388911	LIGHT DETECTING UNITGP1U581X
J2501	5676601	JACK
J4501	5696483	PLATE, JACK
LD1701	53810023	LED SLR-34MC5
LD1702	5381001	LED SLR-34URC5
LD1703	5381001	LED SLR-34URC5
LD1704	5381003	LED SLR-34YC5
LD1705	5381003	LED SLR-34YC5
LD1706	5381003	LED SLR-34YC5
S2101	5635631	SWITCH
S2102	5635331	SWITCH
S2104	5610891	SWITCH
S729	5634884	SWITCH
SW701	5621782	SWITCH
SW702	5621782	SWITCH

PREAMP SECTION

CAPACITORS

SYMBOL-NO	P-NO	DESCRIPTION
C01	0800186	ELECTROLYTIC 47UF 16V
C02	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C04	0800173	ELECTROLYTIC 0.3UF 50V
C05	0890043	CERAMIC DISC 0.01UF+-20% 16V
C06	0890036	CERAMIC DISC 1500PF+-20% 16V
C07	0890045	CERAMIC DISC 0.047UF+80-20% 50V
C08	0890014	CERAMIC DISC 27PF+-50% 50V
C09	0890043	CERAMIC DISC 0.01UF+-20% 16V
C10	0890016	CERAMIC DISC 39PF+-50% 50V
C11	0800185	ELECTROLYTIC 47UF 6.3V
C12	0890029	CERAMIC DISC 390PF+-10% 50V
C13	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C14	0800185	ELECTROLYTIC 47UF 6.3V
C15	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C16	0800185	ELECTROLYTIC 47UF 6.3V
C17	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C18	0890008	CERAMIC DISC 10PF+-5% 50V
C19	0890046	CERAMIC DISC 0.1UF+80-20% 50V
C20	0890046	CERAMIC DISC 0.1UF+80-20% 50V
C21	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C22	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C23	0890046	CERAMIC DISC 0.1UF+80-20% 50V
C24	0890046	CERAMIC DISC 0.1UF+80-20% 50V
C25	0890014	CERAMIC DISC 27PF+-50% 50V
C26	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C27	0890043	CERAMIC DISC 0.01UF+-20% 16V
C28	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C29	0800185	ELECTROLYTIC 47UF 6.3V
C30	0890013	CERAMIC DISC 22PF+-5% 50V
C31	0800173	ELECTROLYTIC 0.3UF 50V
C32	0890045	CERAMIC DISC 0.047UF+80-20% 50V
C33	0890022	CERAMIC DISC 100PF+-10% 50V
C34	0800175	ELECTROLYTIC 1.0UF 50V
C35	0890043	CERAMIC DISC 0.01UF+-20% 16V
C36	0890013	CERAMIC DISC 22PF+-5% 50V
C37	0890013	CERAMIC DISC 22PF+-5% 50V
C38	0890043	CERAMIC DISC 0.01UF+-20% 16V
C39	0800175	ELECTROLYTIC 1.0UF 50V
C40	0800173	ELECTROLYTIC 0.3UF 50V
C41	0890043	CERAMIC DISC 0.01UF+-20% 16V
C42	0890043	CERAMIC DISC 0.01UF+-20% 16V
C43	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C44	0800185	ELECTROLYTIC 47UF 6.3V
C45	0890043	CERAMIC DISC 0.01UF+-20% 16V
C46	0890043	CERAMIC DISC 0.01UF+-20% 16V
C47	0890027	CERAMIC DISC 270PF+-10% 50V
C48	0890018	CERAMIC DISC 56PF+-50% 50V
C49	0890043	CERAMIC DISC 0.01UF+-20% 16V
C50	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C51	0890043	CERAMIC DISC 0.01UF+-20% 16V
C52	0890046	CERAMIC DISC 0.1UF+80-20% 50V
C53	0800173	ELECTROLYTIC 0.3UF 50V
C59	0890046	CERAMIC DISC 0.1UF+80-20% 50V
C60	0890014	CERAMIC DISC 27PF+-50% 50V
C61	0890014	CERAMIC DISC 27PF+-50% 50V

RESISTORS

SYMBOL-NO	P-NO	DESCRIPTION
R01	0700045	CARBON FILM 2.2KOHM+-5% 1/8W
R02	0700037	CARBON FILM 560OHM+-5% 1/8W
R03	0700032	CARBON FILM 220 OHM+-5% 1/8W
R04	0700045	CARBON FILM 2.2KOHM+-5% 1/8W
R05	0700038	CARBON FILM 680OHM+-5% 1/8W
R06	0700027	CARBON FILM 100 OHM+-5% 1/8W
R07	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R09	0700032	CARBON FILM 220 OHM+-5% 1/8W
R10	0700027	CARBON FILM 100 OHM+-5% 1/8W
R11	0700033	CARBON FILM 270OHM+-5% 1/8W
R12	0700023	CARBON FILM 47OHM+-5% 1/8W
R13	0700027	CARBON FILM 100 OHM+-5% 1/8W
R14	0700027	CARBON FILM 100 OHM+-5% 1/8W
R15	0700027	CARBON FILM 100 OHM+-5% 1/8W
R16	0700023	CARBON FILM 47OHM+-5% 1/8W
R17	0700027	CARBON FILM 100 OHM+-5% 1/8W
R18	0700036	CARBON FILM 470 OHM+-5% 1/8W
R19	0700027	CARBON FILM 100 OHM+-5% 1/8W
R20	0700029	CARBON FILM 150 OHM+-5% 1/8W
R21	0700029	CARBON FILM 150 OHM+-5% 1/8W
R22	0700054	CARBON FILM 10KOHM+-5% 1/8W
R23	0700054	CARBON FILM 10KOHM+-5% 1/8W
R24	0700038	CARBON FILM 680OHM+-5% 1/8W

SYMBOL-NO	P-NO	DESCRIPTION
R25	0700049	CARBON FILM 4.7KOHM+-5% 1/8W
R26	0700061	CARBON FILM 33KOHM+-5% 1/8W
R27	0700058	CARBON FILM 22KOHM+-5% 1/8W
R28	0700039	CARBON FILM 820OHM+-5% 1/8W
R29	0700027	CARBON FILM 100 OHM+-5% 1/8W
R31	0700054	CARBON FILM 10KOHM+-5% 1/8W
R32	0700014	CARBON FILM 10OHM+-5% 1/8W
R33	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R34	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R35	0700054	CARBON FILM 10KOHM+-5% 1/8W
R36	0700054	CARBON FILM 10KOHM+-5% 1/8W
R37	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R38	0700047	CARBON FILM 3.3KOHM+-5% 1/8W
R39	0700061	CARBON FILM 33KOHM+-5% 1/8W
R40	0700058	CARBON FILM 22KOHM+-5% 1/8W
R41	0700067	CARBON FILM 100KOHM+-5% 1/8W
R42	0700048	CARBON FILM 3.9KOHM+-5% 1/8W
R43	0700053	CARBON FILM 8.2KOHM+-5% 1/8W
R44	0700054	CARBON FILM 10KOHM+-5% 1/8W
R45	0700039	CARBON FILM 820OHM+-5% 1/8W
R46	0700054	CARBON FILM 10KOHM+-5% 1/8W
R47	0700037	CARBON FILM 560OHM+-5% 1/8W
R48	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R49	0700045	CARBON FILM 2.2KOHM+-5% 1/8W
R50	0700063	CARBON FILM 47KOHM+-5% 1/8W
R51	0700054	CARBON FILM 10KOHM+-5% 1/8W
R52	0700061	CARBON FILM 33KOHM+-5% 1/8W
R53	0700063	CARBON FILM 47KOHM+-5% 1/8W
R62	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R63	0700042	CARBON FILM 1.2KOHM+-5% 1/8W
R64	0700045	CARBON FILM 2.2KOHM+-5% 1/8W
		SEMI-CONDUCTORS
D01	5339131	DIODE 1SS254
D02	5339131	DIODE 1SS254
IC01	1362321	IC HA118162NT
IC02	1361752	IC XRA7740S
IC03	1361731	IC BA7047S
Q01	5327063	TRANSISTOR 2SC1740S
Q03	5327063	TRANSISTOR 2SC1740S
Q04	5327063	TRANSISTOR 2SC1740S
Q05	5327063	TRANSISTOR 2SC1740S
Q06	5327075	TRANSISTOR XDC144ES
Q07	5327075	TRANSISTOR XDC144ES
Q13	5327075	TRANSISTOR XDC144ES
		COILS
L01	0770057	CHOKE COIL 100UH+-5%
L02	5159149	CHOKE COIL 47UH
L03	5159146	CHOKE COIL 27UH
L04	0770057	CHOKE COIL 100UH+-5%
L05	0770057	CHOKE COIL 100UH+-5%
L06	0770057	CHOKE COIL 100UH+-5%
L07	5159154	CHOKE COIL 100UH
L08	5159154	CHOKE COIL 100UH
L09	0770057	CHOKE COIL 100UH+-5%
L10	5159148	CHOKE COIL 39UH
L11	0770057	CHOKE COIL 100UH+-5%
L12	5159158	CHOKE COIL 220UH
L15	5159147	CHOKE COIL 33UH
L16	5159147	CHOKE COIL 33UH
		SWITCHING REGULATOR SECTION

SYMBOL-NO	P-NO	DESCRIPTION
		CAPACITORS
C 5	4110921	ELECTROLYTIC 1UF 50V
△C 7	4110922	CAPACITOR 3300PF
△C 8	4110922	CAPACITOR 3300PF
C 9	4110923	ELECTROLYTIC 2.2UF 50V
C10	4110924	ELECTROLYTIC 68UF 400V
C11	4110925	CAPACITOR 0.1UF
C12	4110926	CAPACITOR 0.022UF
C13	4110927	CAPACITOR 0.01UF 400V
C14	4110928	CAPACITOR 47PF 1KV
C16	4110925	CAPACITOR 0.1UF
C17	4110929	CAPACITOR 470PF
C20	0209171	CERAMIC DISC 0.01UF+80-20% 50V
C21	0209171	CERAMIC DISC 0.01UF+80-20% 50V
C22	4110932	ELECTROLYTIC 27UF 50V
C23	4110932	ELECTROLYTIC 27UF 50V
C24	4110933	ELECTROLYTIC 1000UF 16V
C25	4110934	CAPACITOR 0.033UF
C26	4110935	ELECTROLYTIC 1000UF 16V
C27	4110936	ELECTROLYTIC 1000UF 6.3V
C28	4110937	ELECTROLYTIC 100UF 10V
C29	4110938	CAPACITOR 0.01UF
C30	4110939	ELECTROLYTIC 330UF 16V
C31	4110941	ELECTROLYTIC 47UF 50V
C33	0209761	CERAMIC DISC 0.01MF+-10% 25V
C34	4110943	ELECTROLYTIC 100UF 16V
C37	0209761	CERAMIC DISC 0.01MF+-10% 25V
C38	4110938	CAPACITOR 0.01UF
△C39	4110944	CAPACITOR 0.1UF
C42	0208374	CERAMIC DISC 10000PF+-20% 16V
C43	0208362	CERAMIC DISC 220PF+-10% 50V
		RESISTORS
R 3	4110947	RESISTOR 220KOHM 1/2W
R 4	4110947	RESISTOR 220KOHM 1/2W
R 5	0700059	CARBON FILM 27KOHM+-5% 1/8W
R 6	4110949	RESISTOR 33OHM 2W
R 7	4110951	RESISTOR 22OHM 2W
R 8	0700054	CARBON FILM 10KOHM+-5% 1/8W
R11	0700027	CARBON FILM 100 OHM+-5% 1/8W
R12	0700054	CARBON FILM 10KOHM+-5% 1/8W
R13	0700014	CARBON FILM 10OHM+-5% 1/8W
R14	4110955	RESISTOR 56KOHM 3W
R15	4110956	RESISTOR 0.33OHM 1W
R16	0700005	CARBON FILM 2.2 OHM+-5% 1/8W
R17	0700052	CARBON FILM 6.8KOHM+-5% 1/8W
R18	4110959	RESISTOR 11OHM 3W
R19	4110961	RESISTOR 30.9KOHM
R20	4110962	RESISTOR 20KOHM
R26	0700027	CARBON FILM 100 OHM+-5% 1/8W
R27	0700054	CARBON FILM 10KOHM+-5% 1/8W
R28	0700052	CARBON FILM 6.8KOHM+-5% 1/8W
R29	4110963	RESISTOR 2.7KOHM 1/2W
R32	4110951	RESISTOR 22OHM 2W
R33	0700052	CARBON FILM 6.8KOHM+-5% 1/8W
R35	0700046	CARBON FILM 2.7KOHM+-5% 1/8W
R36	4110963	RESISTOR 2.7KOHM 1/2W
R38	0700061	CARBON FILM 33KOHM+-5% 1/8W
R39	0700054	CARBON FILM 10KOHM+-5% 1/8W
R40	0700056	CARBON FILM 15KOHM+-5% 1/8W
△R41	4110967	RESISTOR 820KOHM 1/4W
R44	4110968	RESISTOR 330KOHM 1/2W

SYMBOL-NO	P-NO	DESCRIPTION
R45	4110968	RESISTOR 330KOHM 1/2W
R46	0700069	CARBON FILM 150KOHM+-5% 1/8W
R47	0700061	CARBON FILM 33KOHM+-5% 1/8W
R48	0700073	CARBON FILM 270KOHM+-5% 1/8W
R49	4110968	RESISTOR 330KOHM 1/2W
R50	4110968	RESISTOR 330KOHM 1/2W
R52	0700034	CARBON FILM 330OHM+-5% 1/8W
R56	0700019	CARBON FILM 27 OHM+-5% 1/8W
		SEMI-CONDUCTORS
⚠D 1	4113161	DIODE S1WBA40
D 3	4113171	DIODE MA2270
D 4	5332401	DIODE MA165
D 5	4113181	DIODE MA4051N
D 6	5332401	DIODE MA165
D 7	5332401	DIODE MA165
D 8	5333151	DIODE EG01-G3
D 9	4113191	DIODE MA700
D10	5333191	DIODE RU4Y-K1
D11	5332071	DIODE ERC81-004
D12	4113201	DIODE MA179
D15	5333151	DIODE EG01-G3
D16	4113211	DIODE MA2180
D17	5333151	DIODE EG01-G3
D20	4113221	DIODE MA4110N-L
D21	4113261	DIODE HZ9B1L
D22	5332401	DIODE MA165
D23	5332401	DIODE MA165
D24	5332401	DIODE MA165
D25	5332401	DIODE MA165
D27	5332401	DIODE MA165
D28	5332401	DIODE MA165
D29	5332401	DIODE MA165
D30	4113231	DIODE MA4300
D31	4113241	DIODE MA4120
D32	5332401	DIODE MA165
D33	4113251	DIODE ERA15-01
D34	4113271	DIODE MA4075
⚠IC 1	4113111	IC PS2561-1
IC 2	4113121	IC AN1431T
⚠PR 2	5721807	IC PROTECTOR
Q 1	5322461	TRANSISTOR 2SD637R SILICON 150MHZ 0.
Q 2	4113131	TRANSISTOR 2SK1030
Q 3	5322471	TRANSISTOR 2SB644R SILICON
Q 6	4113141	TRANSISTOR 2SB641
Q 7	4113151	TRANSISTOR 2SC3852
Q 8	4113151	TRANSISTOR 2SC3852
Q 9	5322461	TRANSISTOR 2SD637R SILICON 150MHZ 0.
Q10	5322461	TRANSISTOR 2SD637R SILICON 150MHZ 0.
Q11	5322461	TRANSISTOR 2SD637R SILICON 150MHZ 0.
Q12	4113151	TRANSISTOR 2SC3852
		TRANSFORMER
⚠T 1	4110984	TRANSFORMER, POWER
		COILS
L 2	4110977	COIL
L 3	4110978	COIL
L 4	4110979	COIL 10UH
L 6	4110979	COIL 10UH
⚠L 7	4110981	COIL 18MH
L 8	4110982	COIL
L 9	4110982	COIL
L10	4110982	COIL
L11	4110982	COIL
		MISCELLANEOUS
⚠F 1	4110975	FUSE 2A 250V

REPLACEMENT PARTS LIST 【For SWN】
1. MECHANICAL PARTS LIST

SYMBOL-NO	P-NO	DESCRIPTION
		FOR FINAL ASSEMBLY
101	6009464	COVER, TOP
102	6009477	COVER, BOTTOM
103	4731185	PANEL, FRONT
104	4725892	DOOR, CASSETTE
106	4752212	KNOB
⚠107	5852851	CORD, POWER
110	6680291	INSULATOR
111	6680292	INSULATOR
112	4590321	STOPPER, DOOR
115	4731335	PANEL, REAR
118	1730502	TUNER IF UNIT
120	5589682	RF CONVERTER
123	5886821	CABLE
126	6551851	SPRING, DOOR
128	4842811	PLATE
131	6562924	RUBBER
133	6562928	RUBBER
138	7415793	BRACKET
142	5604829	SWITCH
143	4896692	BRACKET
144	4587161	DUMPER
145	4751981	BOTTOM
146	6408471	ARM
148	4826591	PLATE
149	6554121	SPRING
202	6500761	MOTOR, LOADING
203	6441371	GEAR
204	6441392	GEAR
205	6441403	GEAR
206	6441381	GEAR
207	6823133	ARM
208	6823171	ARM, OPERATION
209	6441421	GEAR
210	6500321	BRACKET
211	6558551	SPRING
212	6405181	GEAR
213	7788347	WASHER
214	6405191	GEAR
215	6401445	ARM
216	6522979	SPRING
217	6500841	WASHER
218	6441433	GEAR, CHANGE
219	6522978	SPRING
220	6823183	ARM
221	6441411	GEAR
222	6823314	ARM
223	6416631	REEL, TABLE(S)
224	6416652	REEL, TABLE(T)
225	4583333	WASHER
226	6823195	ARM, BRAKE(R)
227	6823229	ARM, BRAKE(L)
228	6318613	SPRING
229	6823271	BRAKE
230	6823261	BRAKE
231	6500414	ARM
232	6823251	GEAR
233	6823292	BRAKE
234	6558452	SPRING
236	6638942	BASE, GUIDE ROLLER(I)
237	4589471	GUIDE ROLLER
238	6638954	BASE, GUIDE ROLLER(0)
239	6500505	GEAR, LOADING(L)
240	6500464	GEAR, LOADING(R)
241	6823536	GEAR, MODE
242	6500549	BRACKET
243	6823542	GEAR
244	6823333	PULLEY
245	6500841	WASHER
246	1470083	DC MOTOR
247	6358101	BELT
248	6823423	ARM
249	6553361	SPRING
250	6823435	ARM
251	6553301	SPRING
252	6823473	BAND, TENSION
253	6823511	SHAFT
254	6500684	ARM, TENSION
255	6553352	SPRING
256	6638934	ARM
257	6823521	GEAR, CAM
258	6823445	BRACKET
259	6500432	ROLLER, PRESSURE
260	5434152	HEAD
261	6500593	BASE, AC HEAD
262	6304906	SPRING
263	6553151	SPRING
264	7785673	NUT
265	6638903	BASE, CYLINDER
267	5794062	BRUSH
268	5423081	HEAD, FULL ERASE
270	6500705	BRACKET
271	6558502	SPRING
274	6320576	SPRING
275	6816211	WORM
402	6823613	BRACKET
403	6823621	GEAR
404	6823631	GEAR
405	6823642	ARM
406	6823652	ARM
407	6558531	SPRING
408	6500612	BRACKET
409	6500622	HOLDER
410	6823691	ARM
411	6558541	SPRING
412	6558561	SPRING
413	6823663	ARM
414	6500672	BRACKET
415	6823701	HOLDER
501	5435722	CYLINDE, UPPER (CY-G6S2)
502	5435712	CYLINDER, ASSY (CY-G6S2)
901	8699410	SCREW(3X10)
902	8699412	SCREW (3X12) BLACK
903	7781582	FALT SCREW-3MMDX10MM(BLACK)
904	8699414	SCREW(3X14)
905	8741406	SCREW(3X6)
908	7781138	SCREW(3X10BT)
909	8691308	SCREW BT2.6MMDX8MM
910	8691305	SCREW(2.6X5)
915	0671305	DT SCREW-2.6MMDX5MM
951	0711304	SCREW(2.6X4)
952	0711312	PAN HEAD SCREW - 2.6MMD X 12MM
953	8691306	BT SCREW 2.6MM
954	0711306	PAN HEAD SCREW-2.6MMDX6MM
955	7773741	SCREW
956	45281813	SCREW
957	7775582	SCREW
958	0671308	DT SCREW-2.6MMDX8MM

SYMBOL-NO	P-NO	DESCRIPTION
960	8650914	SCREW(2.6X14)
991	7784131	SCREW(3X8)
		FOR ACCESARIES
802	5616681	REMOTE HAND SET
803	5861281	MINI CONNECTOR
804	5699421	SOCKT
805	5856023	CORD
851	4952451	CUSHION(F)
852	4952461	CUSHION(B)
853	4929272	BOX,CARTON

SYMBOL-NO	P-NO	DESCRIPTION

2. ELECTRICAL PARTS LIST

If the values are different from those in the schematic diagrams, use the parts in this parts list.

SYMBOL-NO	P-NO	DESCRIPTION
		CAPACITORS
C0201	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0202	0800038	ELECTROLYTIC 47UF 6.3V
C0203	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0204	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0205	0893082	CERAMIC CHIP 0.022UF
C0207	0800072	ELECTROLYTIC 470UF 6.3V
C0208	0800175	ELECTROLYTIC 1.0UF 50V
C0209	0800015	ELECTROLYTIC 10UF 16V
C0210	0800072	ELECTROLYTIC 470UF 6.3V
C0212	0800015	ELECTROLYTIC 10UF 16V
C0213	0209893	CERAMIC CHIP 22PF+-10% 50V
C0215	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0216	0209899	CERAMIC DISC 120PF+-5% 50V
C0217	0209854	CERAMIC DISC 330PF+-5% 50V
C0218	0209854	CERAMIC DISC 330PF+-5% 50V
C0219	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0220	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0221	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0222	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0223	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0224	0880017	POLYESTER FILM 0.15UF+-10% 50V
C0225	0209856	CERAMIC DISC 220PF+-5% 50V
C0226	0209896	CERAMIC CHIP 47PF+-5% 50V
C0227	0209848	CERAMIC DISC 150PF+-5% 50V
C0228	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0229	0893082	CERAMIC CHIP 0.022UF
C0230	0800038	ELECTROLYTIC 47UF 6.3V
C0231	0209852	CERAMIC CHIP 180PF+-5% 50V
C0232	0209903	CERAMIC CHIP 470PF+-5% 50V
C0239	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0240	0209847	CERAMIC CHIP 82PF+-10% 50V
C0241	0209896	CERAMIC CHIP 47PF+-5% 50V
C0242	0209854	CERAMIC DISC 330PF+-5% 50V
C0243	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0244	0800179	ELECTROLYTIC 10UF 16V
C0245	0209897	CERAMIC CHIP 56PF+-5% 50V
C0246	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0247	0800179	ELECTROLYTIC 10UF 16V
C0248	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0249	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0250	0800038	ELECTROLYTIC 47UF 6.3V
C0251	0893082	CERAMIC CHIP 0.022UF
C0255	0800038	ELECTROLYTIC 47UF 6.3V
C0256	0209935	CERAMIC CHIP 27PF+-5% 50V
C0257	0209940	CERAMIC CHIP 68PF+-5% 50V
C0258	0209942	CERAMIC CHIP 100PF+-5% 50V
C0261	0209940	CERAMIC CHIP 68PF+-5% 50V
C0262	0209941	CERAMIC DISC 82PF+-5%
C0263	0893082	CERAMIC CHIP 0.022UF
C0264	0893082	CERAMIC CHIP 0.022UF
C0265	0800177	ELECTROLYTIC 3.3UF 50V
C0267	0893082	CERAMIC CHIP 0.022UF
C0274	0209854	CERAMIC DISC 330PF+-5% 50V
C0275	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0276	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0277	0800185	ELECTROLYTIC 47UF 6.3V
C0278	0893082	CERAMIC CHIP 0.022UF
C0279	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0280	0893082	CERAMIC CHIP 0.022UF
C0281	0209851	CERAMIC DISC 15PF+-5% 50V
C0283	0207444	ELECTROLYTIC 1.0UF 50V
C0284	0880057	POLYESTER FILM 0.1UF+-10% 50V(SWN)
C1201	0893018	CERAMIC CHIP 0.022UF+-10% 25V
C1202	0800178	ELECTROLYTIC 4.7UF 35V
C1203	0209940	CERAMIC CHIP 68PF+-5% 50V
C1204	0209941	CERAMIC DISC 82PF+-5%
C1205	0209928	CERAMIC DISC 8PF+-5% 50V
C1206	0800109	ELECTROLYTIC 1.0UF 50V
C1207	0890045	CERAMIC DISC 0.047UF+80-20% 50V
C1208	0800109	ELECTROLYTIC 1.0UF 50V
C1209	0800109	ELECTROLYTIC 1.0UF 50V
C1210	0209943	CERAMIC DISC 120PF+-5%
C1211	0800047	ELECTROLYTIC 100UF 6.3V
C1212	0893065	CERAMIC CHIP 0.047UF+80-20% 25V
C1213	0209933	CERAMIC CHIP 18PF+-5% 50V
C1214	0209940	CERAMIC CHIP 68PF+-5% 50V
C1215	0209934	CERAMIC CHIP 22PF+-5% 50V
C1216	0800141	ELECTROLYTIC 47UF 16V
C1217	0209941	CERAMIC DISC 82PF+-5%
C1218	0209938	CERAMIC CHIP 47PF+-5% 50V
C1219	0207444	ELECTROLYTIC 1.0UF 50V
C1220	0893065	CERAMIC CHIP 0.047UF+80-20% 25V
C1221	0800141	ELECTROLYTIC 47UF 16V
C1222	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C1224	0800117	ELECTROLYTIC 4.7UF 25V
C1251	0209848	CERAMIC DISC 150PF+-5% 50V
C1253	0893062	CERAMIC CHIP 1UF+80-20% 16V
C1255	0800128	ELECTROLYTIC 22UF 16V
C1301	0209898	CERAMIC CHIP 100PF+-5% 50V
C1302	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1303	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1304	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1305	0800179	ELECTROLYTIC 10UF 16V
C1306	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1307	0800022	ELECTROLYTIC 22UF 10V
C1308	0880012	POLYESTER FILM 0.022UF+-10% 50V
C1309	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1310	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1311	0800064	ELECTROLYTIC 330UF 6.3V
C1312	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1313	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1314	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1315	0800009	ELECTROLYTIC 4.7UF 25V
C1316	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1317	0800015	ELECTROLYTIC 10UF 16V
C1318	0209896	CERAMIC CHIP 47PF+-5% 50V
C1319	0880016	POLYESTER FILM 0.1UF+-10% 50V
C1320	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1321	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1322	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1323	0800038	ELECTROLYTIC 47UF 6.3V
C1325	0209942	CERAMIC CHIP 100PF+-5% 50V
C1326	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1341	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C1401	0209930	CERAMIC CHIP 10PF+-0.5% 50V
C1402	0209933	CERAMIC CHIP 18PF+-5% 50V
C1403	0209930	CERAMIC CHIP 10PF+-0.5% 50V
C1404	0209933	CERAMIC CHIP 18PF+-5% 50V
C1406	0209936	CERAMIC CHIP 33PF+-5% 50V
C1407	0800186	ELECTROLYTIC 47UF 16V
C1409	0893055	CERAMIC CHIP 0.1UF+80-20% 16V
C1410	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C1411	0800057	ELECTROLYTIC 220UF 10V
C1412	0893018	CERAMIC CHIP 0.022UF+-10% 25V
C1413	0207456	ELECTROLYTIC 1UF 50V
C1414	0893031	CERAMIC CHIP 1000PF+-10% 50V
C1415	0800003	ELECTROLYTIC 1UF 50V

SYMBOL-NO	P-NO	DESCRIPTION	SYMBOL-NO	P-NO	DESCRIPTION
C1416	0209852	CERAMIC CHIP 180PF+-5% 50V	C2511	0893014	CERAMIC CHIP 0. 01UF+-10% 25V
C1417	0207456	ELECTROLYTIC 1UF 50V	C2512	0800041	ELECTROLYTIC 47UF 16V
C1418	0893032	CERAMIC CHIP 1200PF+-10% 50V	C2514	0800178	ELECTROLYTIC 4. 7UF 35V
C1419	0893042	CERAMIC CHIP 6800PF+-10% 50V	C2515	0800074	ELECTROLYTIC 470UF 16V
C1420	0209929	CERAMIC CHIP 9. 0PF+-0. 5% 50V	C2516	0893014	CERAMIC CHIP 0. 01UF+-10% 25V
C1421	0209929	CERAMIC CHIP 9. 0PF+-0. 5% 50V	C2517	0800012	ELECTROLYTIC 4. 7UF 50V
C1423	0209894	CERAMIC CHIP 27PF+-10% 50V	C2518	0893053	CERAMIC CHIP 0. 047UF+-10% 50V
C1701	0890043	CERAMIC DISC 0. 01UF+-20% 16V	C2519	0893018	CERAMIC CHIP 0. 022UF+-10% 25V
C1702	0800183	ELECTROLYTIC 330UF 10V	C2520	0800186	ELECTROLYTIC 47UF 16V
C1801	0893014	CERAMIC CHIP 0. 01UF+-10% 25V	C2521	0800103	ELECTROLYTIC 0. 22UF 50V
C1802	0800041	ELECTROLYTIC 47UF 16V	C2522	0893014	CERAMIC CHIP 0. 01UF+-10% 25V
C1803	0209903	CERAMIC CHIP 470PF+-5% 50V	C2523	0800041	ELECTROLYTIC 47UF 16V
C1804	0209934	CERAMIC CHIP 22PF+-5% 50V	C2524	0800039	ELECTROLYTIC 47UF 10V
C1805	0893014	CERAMIC CHIP 0. 01UF+-10% 25V	C2529	0207454	ELECTROLYTIC 47UF 10V
C1806	0893014	CERAMIC CHIP 0. 01UF+-10% 25V	C2530	0800041	ELECTROLYTIC 47UF 16V
C1807	0893014	CERAMIC CHIP 0. 01UF+-10% 25V	C2531	0893014	CERAMIC CHIP 0. 01UF+-10% 25V
C1808	0800015	ELECTROLYTIC 10UF 16V	C2532	0800039	ELECTROLYTIC 47UF 10V
C1810	0893031	CERAMIC CHIP 1000PF+-10% 50V	C2533	0800039	ELECTROLYTIC 47UF 10V
C1812	0893031	CERAMIC CHIP 1000PF+-10% 50V	C2534	0893053	CERAMIC CHIP 0. 047UF+-10% 50V
C1813	0800041	ELECTROLYTIC 47UF 16V	C2535	0800039	ELECTROLYTIC 47UF 10V
C1814	0800041	ELECTROLYTIC 47UF 16V	C2536	0209896	CERAMIC CHIP 47PF+-5% 50V
C1817	0207458	ELECTROLYTIC 10UF 25V	C2539	0209896	CERAMIC CHIP 47PF+-5% 50V
C1818	0207458	ELECTROLYTIC 10UF 25V	C2540	0893004	CERAMIC CHIP 0. 047UF+-10% 16V
C1821	0207458	ELECTROLYTIC 10UF 25V	C3201	0893084	CERAMIC CHIP 0. 047UF+80-20% 50V
C1822	0207458	ELECTROLYTIC 10UF 25V	C3202	0800185	ELECTROLYTIC 47UF 6. 3V
C1823	0800041	ELECTROLYTIC 47UF 16V	C3203	0893084	CERAMIC CHIP 0. 047UF+80-20% 50V
C1824	0207457	ELECTROLYTIC 4. 7UF 50V	C3204	0893079	CERAMIC DISC 0. 01UF+80-20% 50V
C1825	0800041	ELECTROLYTIC 47UF 16V	C3205	0209895	CERAMIC CHIP 39PF+-5% 50V
C1826	0893014	CERAMIC CHIP 0. 01UF+-10% 25V	C3206	0893079	CERAMIC DISC 0. 01UF+80-20% 50V
C1827	0800041	ELECTROLYTIC 47UF 16V	C3207	0893084	CERAMIC CHIP 0. 047UF+80-20% 50V
C1828	0893014	CERAMIC CHIP 0. 01UF+-10% 25V	C3208	0800179	ELECTROLYTIC 10UF 16V
C1829	0800015	ELECTROLYTIC 10UF 16V	C3209	0800178	ELECTROLYTIC 4. 7UF 35V
C1830	0890072	CERAMIC DISC 68PF+-5% 50V	C3210	0209896	CERAMIC CHIP 47PF+-5% 50V
C1831	0800003	ELECTROLYTIC 1UF 50V	C3211	0800176	ELECTROLYTIC 2. 2UF 50V
C1832	0800003	ELECTROLYTIC 1UF 50V	C3212	0893086	CERAMIC CHIP 0. 1UF+80-20% 50V
C1833	0893031	CERAMIC CHIP 1000PF+-10% 50V	C3213	0209848	CERAMIC DISC 150PF+-5% 50V
C1834	0800041	ELECTROLYTIC 47UF 16V	C3214	0209895	CERAMIC CHIP 39PF+-5% 50V
C1839	0209856	CERAMIC DISC 220PF+-5% 50V	C3215	0893033	CERAMIC CHIP 1500PF+-10% 50V
C2101	0890045	CERAMIC DISC 0. 047UF+80-20% 50V	C401	0800032	ELECTROLYTIC 33UF 16V
C2283	0800185	ELECTROLYTIC 47UF 6. 3V	C402	0893037	CERAMIC CHIP 3300PF+-10% 50V
C2284	0800179	ELECTROLYTIC 10UF 16V	C403	0893014	CERAMIC CHIP 0. 01UF+-10% 25V
C2285	0800179	ELECTROLYTIC 10UF 16V	C404	0268449	MYLAR 0. 047UF+-5% 50V
C2287	0893079	CERAMIC DISC 0. 01UF+80-20% 50V	C405	0209856	CERAMIC DISC 220PF+-5% 50V
C2301	0800185	ELECTROLYTIC 47UF 6. 3V	C406	0893014	CERAMIC CHIP 0. 01UF+-10% 25V
C2302	0893084	CERAMIC CHIP 0. 047UF+80-20% 50V	C407	0800041	ELECTROLYTIC 47UF 16V
C2303	0800177	ELECTROLYTIC 3. 3UF 50V	C409	0893053	CERAMIC CHIP 0. 047UF+-10% 50V
C2305	0209853	CERAMIC DISC 68PF+-5% 50V	C410	0893014	CERAMIC CHIP 0. 01UF+-10% 25V
C2306	0893079	CERAMIC DISC 0. 01UF+80-20% 50V	C411	0893017	CERAMIC CHIP 0. 018UF+-10% 25V
C2307	0880011	POLYESTER FILM 0. 015UF+-10% 50V	C412	0209906	CERAMIC DISC 820PF+-5% 50V
C2308	0800179	ELECTROLYTIC 10UF 16V	C413	0893037	CERAMIC CHIP 3300PF+-10% 50V
C2309	0800183	ELECTROLYTIC 330UF 10V	C414	0800022	ELECTROLYTIC 22UF 10V
C2311	0209894	CERAMIC CHIP 27PF+-10% 50V	C415	0880011	POLYESTER FILM 0. 015UF+-10% 50V
C2312	0209894	CERAMIC CHIP 27PF+-10% 50V	C416	0800128	ELECTROLYTIC 22UF 16V
C2313	0893079	CERAMIC DISC 0. 01UF+80-20% 50V	C417	0800122	ELECTROLYTIC 10UF 16V
C2314	0893079	CERAMIC DISC 0. 01UF+80-20% 50V	C418	0800122	ELECTROLYTIC 10UF 16V
C2315	0893079	CERAMIC DISC 0. 01UF+80-20% 50V	C420	0800122	ELECTROLYTIC 10UF 16V
C2316	0880008	POLYESTER FILM 6800PF+-10% 50V	C421	0800122	ELECTROLYTIC 10UF 16V
C2317	0880014	POLYESTER FILM 0. 047UF+-10% 50V	C422	0209904	CERAMIC DISC 560PF+-5% 50V
C2318	0800015	ELECTROLYTIC 10UF 16V	C4501	0255138	ELECTROLYTIC 470UF 6. 3V
C2507	0800049	ELECTROLYTIC 100UF 16V	C471LR	0207458	ELECTROLYTIC 10UF 25V
C2508	0800048	ELECTROLYTIC 100UF 10V	C474LR	0800176	ELECTROLYTIC 2. 2UF 50V
C2509N	0207406	ELECTROLYTIC 10UF 10V	C475LR	0800175	ELECTROLYTIC 1. 0UF 50V
C2509P	0207406	ELECTROLYTIC 10UF 10V	C477	0800011	ELECTROLYTIC 4. 7UF 35V
C2510N	0800039	ELECTROLYTIC 47UF 10V	C478	0800038	ELECTROLYTIC 47UF 6. 3V
C2510P	0800039	ELECTROLYTIC 47UF 10V	C479	0207457	ELECTROLYTIC 4. 7UF 50V

SYMBOL-NO	P-NO	DESCRIPTION
C483LR	0893035	CERAMIC CHIP 2200PF+-10% 50V
C484	0893018	CERAMIC CHIP 0.022UF+-10% 25V
C485	0209942	CERAMIC CHIP 100PF+-5% 50V
C486	0209933	CERAMIC CHIP 18PF+-5% 50V
C491	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C501	0800051	ELECTROLYTIC 100UF 25V
C502	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C503L	0800118	ELECTROLYTIC 4.7UF 35V
C503R	0800118	ELECTROLYTIC 4.7UF 35V
C504L	0800118	ELECTROLYTIC 4.7UF 35V
C504R	0800118	ELECTROLYTIC 4.7UF 35V
C508L	0800032	ELECTROLYTIC 33UF 16V
C508R	0800183	ELECTROLYTIC 330UF 10V
C509L	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C509R	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C510L	0800112	ELECTROLYTIC 2.2UF 50V
C510R	0800112	ELECTROLYTIC 2.2UF 50V
C511L	0800041	ELECTROLYTIC 47UF 16V
C511R	0800141	ELECTROLYTIC 47UF 16V
C512L	0880011	POLYESTER FILM 0.015UF+-10% 50V
C512R	0880011	POLYESTER FILM 0.015UF+-10% 50V
C513	0800127	ELECTROLYTIC 220UF 10V
C514L	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C514R	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C515L	0893031	CERAMIC CHIP 1000PF+-10% 50V
C515R	0893031	CERAMIC CHIP 1000PF+-10% 50V
C516L	0800048	ELECTROLYTIC 100UF 10V
C516R	0800048	ELECTROLYTIC 100UF 10V
C517L	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C517R	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C518	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C519	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C520	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C521	0800139	ELECTROLYITC 47UF 10V
C522	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C523	0893013	CERAMIC CHIP 0.22UF+-10% 16V
C524	0209900	CERAMIC CHIP 270PF+-5% 50V
C530	0800041	ELECTROLYTIC 47UF 16V
C531	0800122	ELECTROLYTIC 10UF 16V
C532	0893039	CERAMIC CHIP 4700PF+-10% 50V
C534	0800122	ELECTROLYTIC 10UF 16V
C536	0800122	ELECTROLYTIC 10UF 16V
C539	0207457	ELECTROLYTIC 4.7UF 50V
C543	0209853	CERAMIC DISC 68PF+-5% 50V
C548	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C550L	0800118	ELECTROLYTIC 4.7UF 35V
C550R	0800118	ELECTROLYTIC 4.7UF 35V
C552	0800118	ELECTROLYTIC 4.7UF 35V
C601	0893031	CERAMIC CHIP 1000PF+-10% 50V
C602	0800031	ELECTROLYTIC 33UF 10V
C603	0800179	ELECTROLYTIC 10UF 16V
C604	0209893	CERAMIC CHIP 22PF+-10% 50V
C606	0893037	CERAMIC CHIP 3300PF+-10% 50V
C607	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C608	0893018	CERAMIC CHIP 0.022UF+-10% 25V
C609	0209903	CERAMIC CHIP 470PF+-5% 50V
C611	0880018	POLYESTER FILM 0.22UF+-10% 50V
C612	0800005	ELECTROLYTIC 2.2UF 50V
C613	0207456	ELECTROLYTIC 1UF 50V
C614	0893051	CERAMIC CHIP 0.033UF+-10% 50V
C615	0207459	ELECTROLYTIC 0.47UF 50V
C616	0254454	ELECTROLYTIC 10UF 16V
C617	0893016	CERAMIC CHIP 0.015UF+-10% 25V
C618	0800015	ELECTROLYTIC 10UF 16V
C619	0893033	CERAMIC CHIP 1500PF+-10% 50V
C620	0207401	ELECTROLYTIC 0.33UF 50V
C621	0893018	CERAMIC CHIP 0.022UF+-10% 25V
C622	0800047	ELECTROLYTIC 100UF 6.3V
C623	0800179	ELECTROLYTIC 10UF 16V
C624	0209854	CERAMIC DISC 330PF+-5% 50V
C625	0800179	ELECTROLYTIC 10UF 16V
C626	0209899	CERAMIC DISC 120PF+-5% 50V
C627	0893018	CERAMIC CHIP 0.022UF+-10% 25V
C628	0800182	ELECTROLYTIC 22UF 16V
C630	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C631	0209936	CERAMIC CHIP 33PF+-5% 50V
C632	0893031	CERAMIC CHIP 1000PF+-10% 50V
C633	0209940	CERAMIC CHIP 68PF+-5% 50V
C634	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C635	0890043	CERAMIC DISC 0.01UF+-20% 16V
C636	0890043	CERAMIC DISC 0.01UF+-20% 16V
C640	0893025	CERAMIC CHIP 0.068UF+-10% 25V
C641	0893039	CERAMIC CHIP 4700PF+-10% 50V
C642	0890039	CERAMIC DISC 4700PF+-20% 16V
C646	0800176	ELECTROLYTIC 2.2UF 50V
C647	0800186	ELECTROLYTIC 47UF 16V
C650	0207406	ELECTROLYTIC 10UF 10V
C701	0890024	CERAMIC DISC 150PF+-10% 50V
C702	0890043	CERAMIC DISC 0.01UF+-20% 16V
C703	0800186	ELECTROLYTIC 47UF 16V
C901	0209856	CERAMIC DISC 220PF+-5% 50V
C903	0209856	CERAMIC DISC 220PF+-5% 50V
C904	0209846	CERAMIC CHIP 33PF+-10% 50V
C905	0209856	CERAMIC DISC 220PF+-5% 50V
C906	0209846	CERAMIC CHIP 33PF+-10% 50V
C908	0209854	CERAMIC DISC 330PF+-5% 50V
C912	0209848	CERAMIC DISC 150PF+-5% 50V
C913	0209848	CERAMIC DISC 150PF+-5% 50V
C917	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C918	0800038	ELECTROLYTIC 47UF 6.3V
C919	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C922	0209935	CERAMIC CHIP 27PF+-5% 50V
C923	0209932	CERAMIC CHIP 15PF+-5% 50V
C924	0800038	ELECTROLYTIC 47UF 6.3V
C925	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C926	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C927	0800038	ELECTROLYTIC 47UF 6.3V
C928	0217516	CAPACITOR 0.047F+80-20% 5V
C929	0800003	ELECTROLYTIC 1UF 50V
C930	0800003	ELECTROLYTIC 1UF 50V
C931	0209898	CERAMIC CHIP 100PF+-5% 50V
C932	0893031	CERAMIC CHIP 1000PF+-10% 50V
C933	0893031	CERAMIC CHIP 1000PF+-10% 50V
C934	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C935	0893018	CERAMIC CHIP 0.022UF+-10% 25V
C936	0800033	ELECTROLYTIC 33UF 25V
C937	0893018	CERAMIC CHIP 0.022UF+-10% 25V
C939	0800183	ELECTROLYTIC 33UF 10V
C940	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C941	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C942	0893018	CERAMIC CHIP 0.022UF+-10% 25V
C944	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C946	0893055	CERAMIC CHIP 0.1UF+80-20% 16V
C950	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C951	0209856	CERAMIC DISC 220PF+-5% 50V
C952	0890074	CERAMIC DISC 100PF+-5% 50V
CT1401	5058495	TRIMMER CAPACITOR

RESISTORS

SYMBOL-NO	P-NO	DESCRIPTION
R0201	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0202	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0203	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0204	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R0205	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0206	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R0207	0103840	CHIP RESISTOR 560 OHM+-5% 0.1W
R0208	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R0209	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R0210	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R0211	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0212	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0213	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R0214	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0216	0103854	CHIP RESISTOR 8.2KOHM+-5% 0.1W
R0217	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0218	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0219	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R0220	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R0221	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R0223	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0224	0103849	CHIP RESISTOR 3.3KOHM+-5% 0.1W
R0225	0103845	CHIP RESISTOR 1.5KOHM+-5% 0.1W
R0226	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R0227	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R0228	0103857	CHIP RESISTOR 15KOHM+-5% 0.1W
R0229	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R0230	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R0231	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0232	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0234	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R0235	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R0236	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0237	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R0238	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W
R0239	0103845	CHIP RESISTOR 1.5KOHM+-5% 0.1W
R0240	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R0242	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0244	0103860	CHIP RESISTOR 27KOHM+-5% 0.1W
R0245	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R0248	0103865	CHIP RESISTOR 68KOHM+-5% 0.1W
R0249	0700048	CARBON FILM 3.9KOHM+-5% 1/8W
R0250	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R0251	0103858	CHIP RESISTOR 18KOHM+-5% 0.1W
R0252	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0253	0103833	CHIP RESISTOR 150 OHM+-5% 0.1W
R0254	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R0256	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0257	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0258	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0259	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0260	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R0261	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0262	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0263	0103840	CHIP RESISTOR 560 OHM+-5% 0.1W
R0264	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0265	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W
R0266	0103857	CHIP RESISTOR 15KOHM+-5% 0.1W
R0267	0103857	CHIP RESISTOR 15KOHM+-5% 0.1W
R0268	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0269	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0270	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R0271	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0272	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0278	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R0279	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0280	0103836	CHIP RESISTOR 270 OHM+-5% 0.1W
R0281	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R0282	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R0283	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0284	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R0285	0103836	CHIP RESISTOR 270 OHM+-5% 0.1W
R0286	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R0287	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R0288	0103857	CHIP RESISTOR 15KOHM+-5% 0.1W
R0289	0103831	CHIP RESISTOR 100 OHM+-5% 0.1W
R0290	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R0291	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R0292	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R0293	0103857	CHIP RESISTOR 15KOHM+-5% 0.1W
R0294	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0296	0103846	CHIP RESISTOR 1.8KOHM+-5% 0.1W
R0297	0700036	CARBON FILM 470 OHM+-5% 1/8W
R0298	0103853	CHIP RESISTOR 6.8KOHM+-5% 0.1W
R1201	0700032	CARBON FILM 220 OHM+-5% 1/8W
R1202	0103839	CHIP RESISTOR 470OHM+-5% 0.1W
R1203	0103845	CHIP RESISTOR 1.5KOHM+-5% 0.1W
R1205	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R1206	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R1207	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1208	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R1209	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W
R1210	0103860	CHIP RESISTOR 27KOHM+-5% 0.1W
R1211	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R1212	0103848	CHIP RESISTOR 2.7KOHM+-5% 0.1W
R1213	0103834	CHIP RESISTOR 180OHM+-5% 0.1W
R1215	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R1217	0103846	CHIP RESISTOR 1.8KOHM+-5% 0.1W
R1218	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1219	0103837	CHIP RESISTOR 330 OHM+-5% 0.1W
R1220	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1221	01038813	CHIP RESISTOR 2.2MOHM+-10% 0.1W
R1224	0700027	CARBON FILM 100 OHM+-5% 1/8W
R1251	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R1252	0700038	CARBON FILM 680OHM+-5% 1/8W
R1253	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R1254	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W
R1255	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R1256	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1258	0700054	CARBON FILM 10KOHM+-5% 1/8W
R1301	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R1302	0103839	CHIP RESISTOR 470OHM+-5% 0.1W
R1303	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1304	0103832	CHIP RESISTOR 120OHM+-5% 0.1W
R1305	0103845	CHIP RESISTOR 1.5KOHM+-5% 0.1W
R1306	0103865	CHIP RESISTOR 68KOHM+-5% 0.1W
R1307	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1308	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1309	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R1310	0103853	CHIP RESISTOR 6.8KOHM+-5% 0.1W
R1311	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R1312	0103853	CHIP RESISTOR 6.8KOHM+-5% 0.1W
R1313	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1314	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1315	0103830	CHIP RESISTOR 82OHM+-5% 0.1W
R1316	0103840	CHIP RESISTOR 560 OHM+-5% 0.1W
R1317	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1318	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1319	0103839	CHIP RESISTOR 470OHM+-5% 0.1W
R1320	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W

SYMBOL-NO	P-NO	DESCRIPTION	SYMBOL-NO	P-NO	DESCRIPTION
R1401	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W	R2318	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R1404	0103832	CHIP RESISTOR 120OHM+-5% 0.1W	R2319	0103839	CHIP RESISTOR 470OHM+-5% 0.1W
R1405	0103858	CHIP RESISTOR 18KOHM+-5% 0.1W	R2320	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1406	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W	R2321	0101868	CARBON FILM 4.7MOHM+-5% 1/4W
R1408	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W	R2322	0101868	CARBON FILM 4.7MOHM+-5% 1/4W
R1409	0103845	CHIP RESISTOR 1.5KOHM+-5% 0.1W	R2502L	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W
R1411	0103853	CHIP RESISTOR 6.8KOHM+-5% 0.1W	R2502R	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W
R1412	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W	R2521	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R1413	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W	R2522	0103832	CHIP RESISTOR 120OHM+-5% 0.1W
R1499	0103845	CHIP RESISTOR 1.5KOHM+-5% 0.1W	R2523	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R1701	0700032	CARBON FILM 220 OHM+-5% 1/8W	R2524	0700045	CARBON FILM 2.2KOHM+-5% 1/8W
R1702	0700037	CARBON FILM 560OHM+-5% 1/8W	R2525	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R1703	0700037	CARBON FILM 560OHM+-5% 1/8W	R2526	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1704	0700033	CARBON FILM 270OHM+-5% 1/8W	R2527	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1705	0700033	CARBON FILM 270OHM+-5% 1/8W	R2528	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R1706	0700033	CARBON FILM 270OHM+-5% 1/8W	R2531	0103832	CHIP RESISTOR 120OHM+-5% 0.1W
R1707	0700041	CARBON FILM 1.0KOHM+-5% 1/8W	R2532	0103872	CHIP RESISTOR 270KOHM+-5% 0.1W
R1708	0700041	CARBON FILM 1.0KOHM+-5% 1/8W	R2533	0103874	CHIP RESISTOR 390KOHM+-5% 0.1W
R1802	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W	R2539	0101838	CARBON FILM 2.7KOHM+-5% 1/4W
R1803	0103831	CHIP RESISTOR 100 OHM+-5% 0.1W	R2540N	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1804	0103831	CHIP RESISTOR 100 OHM+-5% 0.1W	R2540P	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R1805	0103848	CHIP RESISTOR 2.7KOHM+-5% 0.1W	R2542	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1806	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W	R2544	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W
R1807	0103848	CHIP RESISTOR 2.7KOHM+-5% 0.1W	R2545	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W
R1811	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W	R2548	0700067	CARBON FILM 100KOHM+-5% 1/8W
R1812	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W	R2550	0103857	CHIP RESISTOR 15KOHM+-5% 0.1W
R1814	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W	R2553	0700033	CARBON FILM 270 OHM+-5% 1/8W
R1817	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W	R2554	0700067	CARBON FILM 100KOHM+-5% 1/8W
R1818	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W	R3201	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W
R1820	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W	R3202	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R1821	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W	R3203	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R1822	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W	R3204	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1823	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W	R3205	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R1824	0103860	CHIP RESISTOR 27KOHM+-5% 0.1W	R3206	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R1825	0103838	RESISTER CHIP 390 OHM+-5% 0.1W	R3207	0103857	CHIP RESISTOR 15KOHM+-5% 0.1W
R1826	0103854	CHIP RESISTOR 8.2KOHM+-5% 0.1W	R3208	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R1827	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W	R3209	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1828	0103832	CHIP RESISTOR 120 OHM+-5% 0.1W	R3210	0103875	CHIP RESISTOR 470KOHM+-5% 0.1W
R1829	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W	R3211	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R1832	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W	R3212	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R1833	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W	R3213	0700049	CARBON FILM 4.7KOHM+-5% 1/8W
R1835	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W	R3214	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R1840	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W	R3215	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R1889	0103839	CHIP RESISTOR 470OHM+-5% 0.1W	R401	0103819	CHIP RESISTOR 10 OHM+-5% 0.1W
R1891	0103839	CHIP RESISTOR 470OHM+-5% 0.1W	R402	0103819	CHIP RESISTOR 10 OHM+-5% 0.1W
R1892	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W	R404	0103860	CHIP RESISTOR 27KOHM+-5% 0.1W
R2296	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W	R405	0103840	CHIP RESISTOR 560 OHM+-5% 0.1W
R2297	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W	R406	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R2298	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W	R407	0103858	CHIP RESISTOR 18KOHM+-5% 0.1W
R2299	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W	R408	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R2301	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W	R409	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R2302	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W	R410	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R2303	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W	R412	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R2304	01038303	CHIP RESISTOR 82OHM+-5% 0.1W	R414	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W
R2305	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W	R415	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R2306	0103869	CHIP RESISTOR 150KOHM+-5% 0.1W	R416	01038343	CHIP RESISTOR 180OHM+-5% 0.1W
R2307	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W	R417	0103860	CHIP RESISTOR 27KOHM+-5% 0.1W
R2308	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W	R419	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R2309	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W	R420	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R2310	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W	R422	0103845	CHIP RESISTOR 1.5KOHM+-5% 0.1W
R2311	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W	R424	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R2312	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W	R425	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R2313	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W	R435	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R2314	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W	R437	0103836	CHIP RESISTOR 270 OHM+-5% 0.1W
R2315	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W	R438	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W(SSJ)

SYMBOL-NO	P-NO	DESCRIPTION	SYMBOL-NO	P-NO	DESCRIPTION
R438	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W(HEA)	R558	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R439	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W	R601	0103840	CHIP RESISTOR 560 OHM+-5% 0.1W
R440	0103858	CHIP RESISTOR 18KOHM+-5% 0.1W	R602	0103840	CHIP RESISTOR 560 OHM+-5% 0.1W
R441	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W	R603	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R4501	1109023	METAL FILM 75 OHM+-50% 1/8W	R604	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W
R4502	1109023	METAL FILM 75 OHM+-50% 1/8W	R605	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R4503	0700033	CARBON FILM 270OHM+-5% 1/8W	R606	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R471LR	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W	R607	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R480	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W	R608	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R481L	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W	R612	0700045	CARBON FILM 2.2KOHM+-5% 1/8W
R481R	0700041	CARBON FILM 1.0KOHM+-5% 1/8W	R613	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R482LR	0103846	CHIP RESISTOR 1.8KOHM+-5% 0.1W	R614	0103872	CHIP RESISTOR 270KOHM+-5% 0.1W
R486LR	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W	R615	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R487LR	0103854	CHIP RESISTOR 8.2KOHM+-5% 0.1W	R616	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R488LR	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W	R617	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R490	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W	R618	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R491	0103860	CHIP RESISTOR 27KOHM+-5% 0.1W	R619	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R492	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W	R620	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R493	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W	R621	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R494	0700054	CARBON FILM 10KOHM+-5% 1/8W	R622	01038683	CHIP RESISTOR 120KOHM+-5% 0.1W
R495	0103839	CHIP RESISTOR 470OHM+-5% 0.1W	R623	0103865	CHIP RESISTOR 68KOHM+-5% 0.1W
R501L	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W	R624	0103858	CHIP RESISTOR 18KOHM+-5% 0.1W
R501R	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W	R625	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W
R502L	0103839	CHIP RESISTOR 470OHM+-5% 0.1W	R626	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R502R	0103839	CHIP RESISTOR 470OHM+-5% 0.1W	R627	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R503L	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W	R628	0103865	CHIP RESISTOR 68KOHM+-5% 0.1W
R503R	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W	R629	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R504	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W	R630	0103857	CHIP RESISTOR 15KOHM+-5% 0.1W
R505L	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W	R631	0103854	CHIP RESISTOR 8.2KOHM+-5% 0.1W
R505R	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W	R632	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R506L	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W	R633	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W
R506R	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W	R634	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R507L	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W	R636	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R507R	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W	R637	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R508L	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W	R638	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R508R	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W	R639	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R509L	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W	R640	0103878	CHIP RESISTOR 820KOHM+-5% 0.1W
R509R	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W	R641	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R511	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W	R642	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R512	0103831	CHIP RESISTOR 100 OHM+-5% 0.1W	R643	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R513	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W	R644	0700049	CARBON FILM 4.7KOHM+-5% 1/8W
R514L	0104271	CHIP RESISTOR 15KOHM+-1% 1/10W	R650	0103858	CHIP RESISTOR 18KOHM+-5% 0.1W
R514R	0104124	CHIP RESISTOR 12KOHM+-1% 1/10W	R651	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R515L	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W	R652	0103846	CHIP RESISTOR 1.8KOHM+-5% 0.1W
R515R	0103849	CHIP RESISTOR 3.3KOHM+-5% 0.1W	R653	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R516	01038743	CHIP RESISTOR 390KOHM+-5% 0.1W	R654	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R518	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W	R655	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R523	01038703	CHIP RESISTOR 180KOHM+-5% 0.1W	R656	0103848	CHIP RESISTOR 2.7KOHM+-5% 0.1W
R524	01038733	CHIP RESISTOR 330KOHM+-5% 0.1W	R657	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R525	0103848	CHIP RESISTOR 2.7KOHM+-5% 0.1W	R658	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R530L	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W	R660	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R530R	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W	R661	0103876	CHIP RESISTOR 560KOHM+-5% 0.1W
R531L	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W	R662	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R531R	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W	R663	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R532L	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W	R664	0103848	CHIP RESISTOR 2.7KOHM+-5% 0.1W
R532R	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W	R665	0103839	CHIP RESISTOR 470OHM+-5% 0.1W
R533L	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W	R668	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R533R	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W	R669	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R537	0104123	CHIP RESISTOR 8.2KOHM+-1% 1/10W	R670	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R538	0104271	CHIP RESISTOR 15KOHM+-1% 1/10W	R671	0103839	CHIP RESISTOR 470OHM+-5% 0.1W
R539	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W	R672	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R540	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W	R673	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R547	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W	R702	0101718	RESISTOR 75OHM+-5% 1/6W
R551	0104117	CHIP RESISTOR 82KOHM 1/10W	R703	0700054	CARBON FILM 10KOHM+-5% 1/8W
R556	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W	R704	0700037	CARBON FILM 560OHM+-5% 1/8W

SYMBOL-NO	P-NO	DESCRIPTION
R705	0700037	CARBON FILM 560OHM+-5% 1/8W
R706	0700034	CARBON FILM 330OHM+-5% 1/8W
R707	0700064	CARBON FILM 56KOHM+-5% 1/8W
R708	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R709	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R710	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R711	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R712	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R713	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R714	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R715	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R716	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R717	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R718	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R730	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R731	0700054	CARBON FILM 10KOHM+-5% 1/8W
R732	0700063	CARBON FILM 47KOHM+-5% 1/8W
R733	0700063	CARBON FILM 47KOHM+-5% 1/8W
R734	0700063	CARBON FILM 47KOHM+-5% 1/8W
R735	0700063	CARBON FILM 47KOHM+-5% 1/8W
R901	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R902	0103854	CHIP RESISTOR 8.2KOHM+-5% 0.1W
R903	0700035	CARBON FILM 390OHM+-5% 1/8W
R904	0700037	CARBON FILM 560OHM+-5% 1/8W
R905	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R906	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R907	0700028	CARBON FILM 120OHM+-5% 1/8W
R908	0700037	CARBON FILM 560OHM+-5% 1/8W
R909	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R910	01038323	CHIP RESISTOR 120OHM+-5% 0.1W
R911	0103836	CHIP RESISTOR 270 OHM+-5% 0.1W
R912	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R913	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R916	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R917	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R918	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R919	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R920	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R921	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R922	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R923	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R924	0700037	CARBON FILM 560OHM+-5% 1/8W
R925	0700035	CARBON FILM 390OHM+-5% 1/8W
R926	0700033	CARBON FILM 270OHM+-5% 1/8W
R927	0700033	CARBON FILM 270OHM+-5% 1/8W
R928	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R929	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R930	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R931	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R933	0700067	CARBON FILM 100KOHM+-5% 1/8W
R934	0700054	CARBON FILM 10KOHM+-5% 1/8W
R935	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R936	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R937	0700034	CARBON FILM 330OHM+-5% 1/8W
R938	0103837	CHIP RESISTOR 330 OHM+-5% 0.1W
R939	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R940	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R941	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R942	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R943	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R944	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R945	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R946	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R947	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R951	0700063	CARBON FILM 47KOHM+-5% 1/8W
R952	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R953	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R954	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W
R955	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R956	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W
R957	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R958	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R959	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R960	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R961	0103831	CHIP RESISTOR 100 OHM+-5% 0.1W
R963	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R964	0700062	CARBON FILM 39KOHM+-5% 1/8W
R965	0700062	CARBON FILM 39KOHM+-5% 1/8W
R966	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R967	0700049	CARBON FILM 4.7KOHM+-5% 1/8W
R968	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R969	0700049	CARBON FILM 4.7KOHM+-5% 1/8W
R970	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R971	0700062	CARBON FILM 39KOHM+-5% 1/8W
R972	0700062	CARBON FILM 39KOHM+-5% 1/8W
R973	0101824	CARBON FILM 180 OHM+-5% 1/4W
R974	0101823	CARBON FILM 150OHM+-5% 1/4W
R975	0700067	CARBON FILM 100KOHM+-5% 1/8W
R976	0101711	FUSE RESISTOR 2.2OHM+-5% 1/4W
R977	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R978	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R979	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R980	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W
R981	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R982	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R983	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R984	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R985	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R986	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R987	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R988	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R989	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R990	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R991	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R992	0103858	CHIP RESISTOR 18KOHM+-5% 0.1W
R993	0103849	CHIP RESISTOR 3.3KOHM+-5% 0.1W
R994	0103849	CHIP RESISTOR 3.3KOHM+-5% 0.1W
R995	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R996	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R998	0700033	CARBON FILM 270OHM+-5% 1/8W
R999	0700027	CARBON FILM 100 OHM+-5% 1/8W
RT0201	5030084	TRIMMER 1KOHM
RT1201	5030084	TRIMMER 1KOHM
RT1301	5030084	TRIMMER 1KOHM
RT2301	5030083	SEMI VARIABLE 470 OHM
RT401	5035081	TRIMMER RESISTOR
RT501L	5035077	SEMI VARIABLE 10KOHM
RT501R	5035076	TRIMMER 4.7KOHM
RT502L	5035078	TRIMMER RESISTOR
RT502R	5035077	SEMI VARIABLE 10KOHM
RT601	5030012	SEMI VARIABLE 220KOHM
		SEMI-CONDUCTORS
D0202	5339141	DIODE 1SS270
D0203	5339141	DIODE 1SS270
D0205	5339141	DIODE 1SS270
D0206	5339551	DIODE SS1J4
D0207	5339141	DIODE 1SS270
D0209	5339141	DIODE 1SS270

SYMBOL-NO	P-NO	DESCRIPTION
D0210	5328303	DIODE MA152WK (MU)
D0211	5339141	DIODE 1SS270
D0212	5328303	DIODE MA152WK (MU)
D0214	5339141	DIODE 1SS270
D0215	5339141	DIODE 1SS270
D0217	5328303	DIODE MA152WK (MU)
D1201	5339141	DIODE 1SS270
D1202	5339141	DIODE 1SS270
D1203	5339551	DIODE SS1J4
D1204	5339141	DIODE 1SS270
D1205	5328321	DIODE MA151K (MH)
D1206	5328321	DIODE MA151K (MH)
D1301	5339141	DIODE 1SS270
D1302	5339141	DIODE 1SS270
D1403	5328321	DIODE MA151K (MH)
D1801	5328303	DIODE MA152WK (MU)
D2101	5380933	LED GL451
D2501	5339141	CIODE 1SS270
D2502	5339141	DIODE 1SS270
D2503	5339551	DIODE SS1J4
D3201	5328303	DIODE MA152WK (MU)
D471	5339141	DIODE 1SS270
D474LR	5339141	DIODE 1SS270
D475	5339141	DIODE 1SS270
D476LR	5339141	DIODE 1SS270
D477	5339141	DIODE 1SS270
D478	5339141	DIODE 1SS270
D479	5328321	DIODE MA151K (MH)
D501	5328321	DIODE MA151K (MH)
D601	5339141	DIODE 1SS270
D602	5339141	DIODE 1SS270
D603	5339141	DIODE 1SS270
D605	5339141	DIODE 1SS270
D606	5339141	DIODE 1SS270
D609	5339141	DIODE 1SS270
D610	5328321	DIODE MA151K (MH)
D706	5339141	DIODE 1SS270
D707	5339141	DIODE 1SS270
D720	5339551	DIODE SS1J4
D721	5381663	DIODE SLH34VT3
D722	5381661	LED SLH-34MT3
D723	5381663	DIODE SLH34VT3
D903	5339551	DIODE SS1J4
D904	5339551	DIODE SS1J4
D905	5339141	DIODE 1SS270
D906	5339141	DIODE 1SS270
D908	5328321	DIODE MA151K (MH)
IC0201	1374271	MODULE HT7445
IC0203	1346881	IC M52364P
IC1201	1345911	IC TL8828P
IC1202	1350411	IC NJM2235M
IC1301	1346821	IC M51646SP
IC1401	1366721	IC LC74760M8793
IC1701	1396051	IC HD49783FP
IC1801	1365802	IC CF70091A
IC1802	1343511	IC TDA1543
IC1803	5364761	IC BA4560
IC1804	1365812	IC BA3129F
IC1806	1388951	IC AFS816F
IC2101	5327521	PHOTO TRANSISTOR SPI-315-C
IC2102	5327521	PHOTO TRANSISTOR SPI-315-C
IC2202	1350042	IC HA118070FP
IC2301	5366642	IC XRA7025L
IC2303	1352385	IC NJM2903M
IC2501	1341691	IC NJM2234S

SYMBOL-NO	P-NO	DESCRIPTION
IC2503	1351361	IC M5201FP
IC3201	1345891	IC NJM2502L
IC401	5300641	IC BA7755
IC501	1365754	IC AN3961NFBPAA
IC601	1366861	IC HD49781F
IC602	5350601	IC NJM4558D
IC701	1349041	IC UPD16312GB-3B4
IC901	1396064	IC UPD78056YGC-W01-389
IC902	1361212	IC X24C02P
IC903	5300795	IC XRA6209U4
IC904	1340002	IC S-8053ALB
IC905	1354712	IC BU2042F
Q0201	5328796	TRANSISTOR XDC144EK
Q0202	5328796	TRANSISTOR XDC144EK
Q0204	5328971	TRANSISTOR 2SC2412KBRST
Q0205	5328971	TRANSISTOR 2SC2412KBRST
Q0206	5328796	TRANSISTOR XDC144EK
Q0207	5328331	TRANSISTOR 2SB709AR
Q0208	5328971	TRANSISTOR 2SC2412KBRST
Q0209	5328796	TRANSISTOR XDC144EK
Q0210	5328971	TRANSISTOR 2SC2412KBRST
Q0211	5328796	TRANSISTOR XDC144EK
Q0212	5328796	TRANSISTOR XDC144EK
Q0213	5328796	TRANSISTOR XDC144EK
Q0214	5328796	TRANSISTOR XDC144EK
Q0217	5328796	TRANSISTOR XDC144EK
Q0218	5328971	TRANSISTOR 2SC2412KBRST
Q0219	5328796	TRANSISTOR XDC144EK
Q0220	5328797	TRANSISTOR XDA144EK
Q0221	5328796	TRANSISTOR XDC144EK
Q0222	5328971	TRANSISTOR 2SC2412KBRST
Q0223	5328792	TRANSISTOR DTA124K(15)
Q0224	5328971	TRANSISTOR 2SC2412KBRST
Q0225	5328971	TRANSISTOR 2SC2412KBRST
Q0226	5328797	TRANSISTOR XDA144EK
Q0227	5328797	TRANSISTOR XDA144EK
Q0228	5328971	TRANSISTOR 2SC2412KBRST
Q0229	5328971	TRANSISTOR 2SC2412KBRST
Q0230	5328971	TRANSISTOR 2SC2412KBRST
Q0231	5328971	TRANSISTOR 2SC2412KBRST
Q0232	5328971	TRANSISTOR 2SC2412KBRST
Q0234	5328971	TRANSISTOR 2SC2412KBRST
Q0238	5328792	TRANSISTOR DTA124K(15)
Q0239	5328797	TRANSISTOR XDA144EK
Q0243	5328796	TRANSISTOR XDC144EK
Q0244	5328796	TRANSISTOR XDC144EK
Q0245	5328796	TRANSISTOR XDC144EK
Q1201	5328971	TRANSISTOR 2SC2412KBRST
Q1202	5328971	TRANSISTOR 2SC2412KBRST
Q1203	5328331	TRANSISTOR 2SB709AR
Q1204	5328971	TRANSISTOR 2SC2412KBRST
Q1205	5328331	TRANSISTOR 2SB709AR
Q1206	5328331	TRANSISTOR 2SB709AR
Q1251	5328796	TRANSISTOR XDC144EK
Q1252	5328962	TRANSISTOR 2SA1037K
Q1253	5328796	TRANSISTOR XDC144EK
Q1254	1323081	TRANSISTOR 2SA1036K
Q1301	5328971	TRANSISTOR 2SC2412KBRST
Q1302	5328971	TRANSISTOR 2SC2412KBRST
Q1303	5328971	TRANSISTOR 2SC2412KBRST
Q1312	5328792	TRANSISTOR DTA124K(15)
Q1401	5328962	TRANSISTOR 2SA1037K
Q1402	5328971	TRANSISTOR 2SC2412KBRST
Q1403	5328971	TRANSISTOR 2SC2412KBRST
Q1701	5327075	TRANSISTOR XDC144ES

SYMBOL-NO	P-NO	DESCRIPTION
Q1702	5327075	TRANSISTOR XDC144ES
Q1703	5327075	TRANSISTOR XDC144ES
Q1704	5327075	TRANSISTOR XDC144ES
Q1705	5327075	TRANSISTOR XDC144ES
Q1706	5327075	TRANSISTOR XDC144ES
Q1801	5328796	TRANSISTOR XDC144EK
Q1804	5328972	TRANSISTOR 2SC2412K-BRT
Q1805	5328972	TRANSISTOR 2SC2412K-BRT
Q1806	5328972	TRANSISTOR 2SC2412K-BRT
Q2101	5324661	PHOTO TRANSISTOR PT-483F1H
Q2102	5324661	PHOTO TRANSISTOR PT-483F1H
Q2301	5328971	TRANSISTOR 2SC2412KBRST
Q2303	5328971	TRANSISTOR 2SC2412KBRST
Q2304	5328796	TRANSISTOR XDC144EK
Q2501	5328962	TRANSISTOR 2SA1037K
Q2502	5328962	TRANSISTOR 2SA1037K
Q2503	5327091	TRANSISTER 2SD1504E
Q2504	5328796	TRANSISTOR XDC144EK
Q2506	5328796	TRANSISTOR XDC144EK
Q2507	5327075	TRANSISTOR XDC144ES
Q2508	5328797	TRANSISTOR XDA144EK
Q2550	5328796	TRANSISTOR XDC144EK
Q3201	5328796	TRANSISTOR XDC144EK
Q3202	5328971	TRANSISTOR 2SC2412KBRST
Q3203	5328331	TRANSISTOR 2SB709AR
Q3204	5328796	TRANSISTOR XDC144EK
Q401	5327021	TRANSISTOR 2SA844CD
Q402	5327102	TRANSISTOR 2SC3533-BC
Q403	5328971	TRANSISTOR 2SC2412KBRST
Q406	5328796	TRANSISTOR XDC144EK
Q407	5328796	TRANSISTOR XDC144EK
Q408	5328796	TRANSISTOR XDC144EK
Q409	5328796	TRANSISTOR XDC144EK
Q410	5328796	TRANSISTOR XDC144EK(HFA)
Q410	5328797	TRANSISTOR XDA144EK(SSJ)
Q411	5328796	TRANSISTOR XDC144EK
Q412	5328796	TRANSISTOR XDC144EK
Q4501	5324631	TRANSISTOR 2SA1390C
Q471	1323081	TRANSISTOR 2SA1036K
Q472	5328796	TRANSISTOR XDC144EK
Q475L	5328971	TRANSISTOR 2SC2412KBRST
Q475R	5328971	TRANSISTOR 2SC2412KBRST
Q476	5328971	TRANSISTOR 2SC2412KBRST
Q501L	5328971	TRANSISTOR 2SC2412KBRST
Q501R	5328971	TRANSISTOR 2SC2412KBRST
Q502	5328971	TRANSISTOR 2SC2412KBRST
Q505	5328971	TRANSISTOR 2SC2412KBRST
Q510L	5328796	TRANSISTOR XDC144EK
Q510R	5328796	TRANSISTOR XDC144EK
Q511	5328796	TRANSISTOR XDC144EK
Q512	5328796	TRANSISTOR XDC144EK
Q602	5328971	TRANSISTOR 2SC2412KBRST
Q603	5328797	TRANSISTOR XDA144EK
Q605	5328971	TRANSISTOR 2SC2412KBRST
Q606	5327261	TRANSISTOR 2SB1326(Q)
Q607	5328796	TRANSISTOR XDC144EK
Q608	5327261	TRANSISTOR 2SB1326(Q)
Q609	5328796	TRANSISTOR XDC144EK
Q701	5327075	TRANSISTOR XDC144ES
Q702	5327075	TRANSISTOR XDC144ES
Q703	5327075	TRANSISTOR XDC144ES
Q902	5328971	TRANSISTOR 2SC2412KBRST
Q903	5328962	TRANSISTOR 2SA1037K
Q904	5328962	TRANSISTOR 2SA1037K
Q905	5328796	TRANSISTOR XDC144EK

SYMBOL-NO	P-NO	DESCRIPTION
Q906	5328796	TRANSISTOR XDC144EK
Q907	5328797	TRANSISTOR XDA144EK
Q908	5328971	TRANSISTOR 2SC2412KBRST
QF601	5721943	IC PROTECTOR
QF602	5721943	IC PROTECTOR
QF603	5721802	IC PROTECTER
TH1201	5340361	THERMISTOR ERTD2FHL
ZD2301	5339251	DIODE HZS2-C3
ZD2503	5339406	DIODE UTZJ30C
ZD601	5339262	DIODE HZS6-C2
ZD602	5339262	DIODE HZS6-C2
ZD701	5339257	DIODE HZS4
ZD902	5339478	DIODE HZA11C
		TRANSFORMER
T401	5261533	TRANSFORMER
		COILS
L0201	0770057	CHOKE COIL 100UH+-5%
L0202	0770057	CHOKE COIL 100UH+-5%
L0203	5159155	CHOKE COIL 120UH+-10%
L0204	5159149	CHOKE COIL 47UH
L0205	5159154	CHOKE COIL 100UH
L0206	5121611	COIL
L0207	5121613	COIL
L0208	5121615	COIL
L0209	5121617	COIL
L0211	5121611	COIL
L0212	5159154	CHOKE COIL 100UH
L0213	5121611	COIL
L0214	5121611	COIL
L0215	5159143	CHOKE COIL 15UH
L0216	5121611	COIL
L0217	5159152	CHOKE COIL 68UH
L0218	5159147	CHOKE COIL 33UH
L0219	5159146	CHOKE COIL 27UH
L0220	5159149	CHOKE COIL 47UH
L1201	0770051	CHOKE COIL 33UH+-5%(SSJ)
L1201	5159146	CHOKE COIL 27UH
L1202	5159146	CHOKE COIL 27UH
L1203	5121611	COIL
L1204	5159142	CHOKE COIL 12UH
L1205	5121581	CHOKE COIL 100UH
L1207	5159141	CHOKE COIL 10UH
L1301	5159155	CHOKE COIL 120UH+-10%
L1302	5121611	COIL
L1303	5159151	CHOKE COIL 56UH
L1304	5121611	COIL
L1305	5159146	CHOKE COIL 27UH
L1401	0770057	CHOKE COIL 100UH+-5%
L1402	5121287	COIL
L1403	5159137	CHOKE COIL 5.6UH+-10%
L1801	5159152	CHOKE COIL 68UH
L1802	0770057	CHOKE COIL 100UH+-5%
L2301	5121611	COIL
L2302	5159147	CHOKE COIL 33UH
L2303	5159147	CHOKE COIL 33UH
L2304	5130431	COIL
L2501	5121294	COIL 100UH
L2502	0770057	CHOKE COIL 100UH+-5%
L2503	0770057	CHOKE COIL 100UH+-5%
L2505	0770047	CHOKE COIL 18UH+-5%
L2506	5121294	COIL 100UH

SYMBOL-NO	P-NO	DESCRIPTION
L2509	5159141	CHOKE COIL 10UH
L2510	5121611	COIL
L3201	5121611	COIL
L401	0770057	CHOKE COIL 100UH+-5%(HFA)
L401	5121615	COIL(SSJ)
L402	5159111	CHOKE COIL 5600UH
L402	5159152	CHOKE COIL 68UH(SSJ)
L501	0770057	CHOKE COIL 100UH+-5%
L502L	0770057	CHOKE COIL 100UH+-5%
L503	0770057	CHOKE COIL 100UH+-5%
L504	0770064	CHOKE COIL 330UH+-5%
L601	0770057	CHOKE COIL 100UH+-5%
L602	0770057	CHOKE COIL 100UH+-5%
L901	5159138	CHOKE COIL 6.8UH
L902	5159142	CHOKE COIL 12UH
		CRYSTALS
X0201	5778881	CRYSTAL
X0202	5778871	CRYSTAL
X0203	5778182	CRYSTAL
X1201	5779071	CRYSTAL
X1401	5779251	CRYSTAL
X1402	5781791	CRYSTAL
X1801	5779141	CLYSTAL
X601	5781901	CRYSTAL
X901	5784475	OSCILLATOR
X902	5783003	CRYSTAL
		MISCELLANEOUS
CN701	5844889	CONNECTOR
CP1301	5165411	FILTER
CP1302	5165403	FILTER
CP1303	5165412	FILTER
CP1304	5165404	FILTER
CP1801	5165391	FILTER
CP1801	5165392	FILTER, TRAP
CP2201	5165421	LC FILTER
CP2301	5160431	BAND PASS FILTER
DG701	5315404	FLOURESCENT INDICATOR TUBE
DL0201	5786421	DELAY LINE
DL0202	5785491	DLAY LINE
DL0203	5786451	DELAY LINE
IR701	1388911	LIGHT DETECTING UNITGP1U581X
J2501	5676601	JACK
J4501	5696483	PLATE, JACK
LD1701	53810023	LED SLR-34MC5
LD1702	5381001	LED SLR-34URC5
LD1703	5381001	LED SLR-34URC5
LD1704	5381003	LED SLR-34YC5
LD1705	5381003	LED SLR-34YC5
LD1706	5381003	LED SLR-34YC5
S2101	5635631	SWITCH
S2102	5635331	SWITCH
S2104	5610891	SWITCH
S729	5634884	SWITCH
SW701	5621782	SWITCH
SW702	5621782	SWITCH
		PREAMP SECTION
		CAPACITORS
C01	0800186	ELECTROLYTIC 47UF 16V

SYMBOL-NO	P-NO	DESCRIPTION
C02	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C04	0800173	ELECTROLYTIC 0.3UF 50V
C05	0890043	CERAMIC DISC 0.01UF+-20% 16V
C06	0890036	CERAMIC DISC 1500PF+-20% 16V
C07	0890045	CERAMIC DISC 0.047UF+80-20% 50V
C08	0890014	CERAMIC DISC 27PF+-50% 50V
C09	0890043	CERAMIC DISC 0.01UF+-20% 16V
C10	0890016	CERAMIC DISC 39PF+-50% 50V
C11	0800185	ELECTROLYTIC 47UF 6.3V
C12	0890029	CERAMIC DISC 390PF+-10% 50V
C13	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C14	0800185	ELECTROLYTIC 47UF 6.3V
C15	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C16	0800185	ELECTROLYTIC 47UF 6.3V
C17	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C18	0890008	CERAMIC DISC 10PF+-5% 50V
C19	0890046	CERAMIC DISC 0.1UF+80-20% 50V
C20	0890046	CERAMIC DISC 0.1UF+80-20% 50V
C21	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C22	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C23	0890046	CERAMIC DISC 0.1UF+80-20% 50V
C24	0890046	CERAMIC DISC 0.1UF+80-20% 50V
C25	0890014	CERAMIC DISC 27PF+-50% 50V
C26	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C27	0890043	CERAMIC DISC 0.01UF+-20% 16V
C28	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C29	0800185	ELECTROLYTIC 47UF 6.3V
C30	0890013	CERAMIC DISC 22PF+-5% 50V
C31	0800173	ELECTROLYTIC 0.3UF 50V
C32	0890045	CERAMIC DISC 0.047UF+80-20% 50V
C33	0890022	CERAMIC DISC 100PF+-10% 50V
C34	0800175	ELECTROLYTIC 1.0UF 50V
C35	0890043	CERAMIC DISC 0.01UF+-20% 16V
C36	0890013	CERAMIC DISC 22PF+-5% 50V
C37	0890013	CERAMIC DISC 22PF+-5% 50V
C38	0890043	CERAMIC DISC 0.01UF+-20% 16V
C39	0800175	ELECTROLYTIC 1.0UF 50V
C40	0800173	ELECTROLYTIC 0.3UF 50V
C41	0890043	CERAMIC DISC 0.01UF+-20% 16V
C42	0890043	CERAMIC DISC 0.01UF+-20% 16V
C43	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C44	0800185	ELECTROLYTIC 47UF 6.3V
C45	0890043	CERAMIC DISC 0.01UF+-20% 16V
C46	0890043	CERAMIC DISC 0.01UF+-20% 16V
C47	0890027	CERAMIC DISC 270PF+-10% 50V
C48	0890018	CERAMIC DISC 56PF+-50% 50V
C49	0890043	CERAMIC DISC 0.01UF+-20% 16V
C50	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C51	0890043	CERAMIC DISC 0.01UF+-20% 16V
C52	0890046	CERAMIC DISC 0.1UF+80-20% 50V
C53	0800173	ELECTROLYTIC 0.3UF 50V
C59	0890046	CERAMIC DISC 0.1UF+80-20% 50V
C60	0890014	CERAMIC DISC 27PF+-50% 50V
C61	0890014	CERAMIC DISC 27PF+-50% 50V
		RESISTORS
R01	0700045	CARBON FILM 2.2KOHM+-5% 1/8W
R02	0700037	CARBON FILM 5600HM+-5% 1/8W
R03	0700032	CARBON FILM 220 OHM+-5% 1/8W
R04	0700045	CARBON FILM 2.2KOHM+-5% 1/8W
R05	0700038	CARBON FILM 6800HM+-5% 1/8W
R06	0700027	CARBON FILM 100 OHM+-5% 1/8W
R07	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R09	0700032	CARBON FILM 220 OHM+-5% 1/8W

SYMBOL-NO	P-NO	DESCRIPTION
R10	0700027	CARBON FILM 100 OHM+-5% 1/8W
R11	0700033	CARBON FILM 2700HM+-5% 1/8W
R12	0700023	CARBON FILM 470HM+-5% 1/8W
R13	0700027	CARBON FILM 100 OHM+-5% 1/8W
R14	0700027	CARBON FILM 100 OHM+-5% 1/8W
R15	0700027	CARBON FILM 100 OHM+-5% 1/8W
R16	0700023	CARBON FILM 470HM+-5% 1/8W
R17	0700027	CARBON FILM 100 OHM+-5% 1/8W
R18	0700036	CARBON FILM 470 OHM+-5% 1/8W
R19	0700027	CARBON FILM 100 OHM+-5% 1/8W
R20	0700029	CARBON FILM 150 OHM+-5% 1/8W
R21	0700029	CARBON FILM 150 OHM+-5% 1/8W
R22	0700054	CARBON FILM 10KOHM+-5% 1/8W
R23	0700054	CARBON FILM 10KOHM+-5% 1/8W
R24	0700038	CARBON FILM 6800HM+-5% 1/8W
R25	0700049	CARBON FILM 4.7KOHM+-5% 1/8W
R26	0700061	CARBON FILM 33KOHM+-5% 1/8W
R27	0700058	CARBON FILM 22KOHM+-5% 1/8W
R28	0700039	CARBON FILM 8200HM+-5% 1/8W
R29	0700027	CARBON FILM 100 OHM+-5% 1/8W
R31	0700054	CARBON FILM 10KOHM+-5% 1/8W
R32	0700014	CARBON FILM 100HM+-5% 1/8W
R33	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R34	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R35	0700054	CARBON FILM 10KOHM+-5% 1/8W
R36	0700054	CARBON FILM 10KOHM+-5% 1/8W
R37	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R38	0700047	CARBON FILM 3.3KOHM+-5% 1/8W
R39	0700061	CARBON FILM 33KOHM+-5% 1/8W
R40	0700058	CARBON FILM 22KOHM+-5% 1/8W
R41	0700067	CARBON FILM 100KOHM+-5% 1/8W
R42	0700048	CARBON FILM 3.9KOHM+-5% 1/8W
R43	0700053	CARBON FILM 8.2KOHM+-5% 1/8W
R44	0700054	CARBON FILM 10KOHM+-5% 1/8W
R45	0700039	CARBON FILM 8200HM+-5% 1/8W
R46	0700054	CARBON FILM 10KOHM+-5% 1/8W
R47	0700037	CARBON FILM 5600HM+-5% 1/8W
R48	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R49	0700045	CARBON FILM 2.2KOHM+-5% 1/8W
R50	0700063	CARBON FILM 47KOHM+-5% 1/8W
R51	0700054	CARBON FILM 10KOHM+-5% 1/8W
R52	0700061	CARBON FILM 33KOHM+-5% 1/8W
R53	0700063	CARBON FILM 47KOHM+-5% 1/8W
R62	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R63	0700042	CARBON FILM 1.2KOHM+-5% 1/8W
R64	0700045	CARBON FILM 2.2KOHM+-5% 1/8W
		SEMI-CONDUCTORS
D01	5339131	DIODE 1SS254
D02	5339131	DIODE 1SS254
IC01	1362321	IC HA118162NT
IC02	1361752	IC XRA7740S
IC03	1361731	IC BA7047S
Q01	5327063	TRANSISTOR 2SC1740S
Q03	5327063	TRANSISTOR 2SC1740S
Q04	5327063	TRANSISTOR 2SC1740S
Q05	5327063	TRANSISTOR 2SC1740S
Q06	5327075	TRANSISTOR XDC144ES
Q07	5327075	TRANSISTOR XDC144ES
Q13	5327075	TRANSISTOR XDC144ES
		COILS
L01	0770057	CHOKE COIL 100UH+-5%

SYMBOL-NO	P-NO	DESCRIPTION
L02	5159149	CHOKE COIL 47UH
L03	5159146	CHOKE COIL 27UH
L04	0770057	CHOKE COIL 100UH+-5%
L05	0770057	CHOKE COIL 100UH+-5%
L06	0770057	CHOKE COIL 100UH+-5%
L07	5159154	CHOKE COIL 100UH
L08	5159154	CHOKE COIL 100UH
L09	0770057	CHOKE COIL 100UH+-5%
L10	5159148	CHOKE COIL 39UH
L11	0770057	CHOKE COIL 100UH+-5%
L12	5159158	CHOKE COIL 220UH
L15	5159147	CHOKE COIL 33UH
L16	5159147	CHOKE COIL 33UH
		SWITCHING REGULATOR SECTION
		CAPACITORS
C 5	4110921	ELECTROLYTIC 1UF 50V
⚠C 7	4110922	CAPACITOR 3300PF
⚠C 8	4110922	CAPACITOR 3300PF
C 9	4110923	ELECTROLYTIC 2.2UF 50V
C10	4110924	ELECTROLYTIC 68UF 400V
C11	4110925	CAPACITOR 0.1UF
C12	4110926	CAPACITOR 0.022UF
C13	4110927	CAPACITOR 0.01UF 400V
C14	4110928	CAPACITOR 47PF 1KV
C16	4110925	CAPACITOR 0.1UF
C17	4110929	CAPACITOR 470PF
C20	0209171	CERAMIC DISC 0.01UF+80-20% 50V
C21	0209171	CERAMIC DISC 0.01UF+80-20% 50V
C22	4110932	ELECTROLYTIC 27UF 50V
C23	4110932	ELECTROLYTIC 27UF 50V
C24	4110933	ELECTROLYTIC 1000UF 16V
C25	4110934	CAPACITOR 0.033UF
C26	4110935	ELECTROLYTIC 1000UF 16V
C27	4110936	ELECTROLYTIC 1000UF 6.3V
C28	4110937	ELECTROLYTIC 100UF 10V
C29	4110938	CAPACITOR 0.01UF
C30	4110939	ELECTROLYTIC 330UF 16V
C31	4110941	ELECTROLYTIC 47UF 50V
C33	0209761	CERAMIC DISC 0.01MF+-10% 25V
C34	4110943	ELECTROLYTIC 100UF 16V
C37	0209761	CERAMIC DISC 0.01MF+-10% 25V
C38	4110938	CAPACITOR 0.01UF
⚠C39	4110944	CAPACITOR 0.1UF
C42	0208374	CERAMIC DISC 10000PF+-20% 16V
C43	0208362	CERAMIC DISC 220PF+-10% 50V
		RESISTORS
R 3	4110947	RESISTOR 220KOHM 1/2W
R 4	4110947	RESISTOR 220KOHM 1/2W
R 5	0700059	CARBON FILM 27KOHM+-5% 1/8W
R 6	4110949	RESISTOR 330HM 2W
R 7	4110951	RESISTOR 220HM 2W
R 8	0700054	CARBON FILM 10KOHM+-5% 1/8W
R11	0700027	CARBON FILM 100 OHM+-5% 1/8W
R12	0700054	CARBON FILM 10KOHM+-5% 1/8W
R13	0700014	CARBON FILM 100HM+-5% 1/8W
R14	4110955	RESISTOR 56KOHM 3W
R15	4110956	RESISTOR 0.330HM 1W
R16	0700005	CARBON FILM 2.2 OHM+-5% 1/8W
R17	0700052	CARBON FILM 6.8KOHM+-5% 1/8W
R18	4110959	RESISTOR 110HM 3W

3/4/7

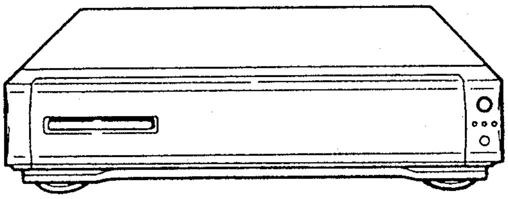
HITACHI

TK | No.4318E-2

VT-F90EM(HKN)R

SERVICE MANUAL

SUPPLEMENT

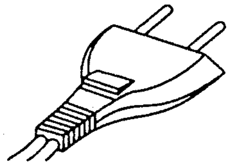
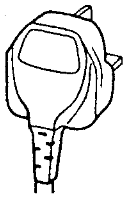


This model is produced by modifying the power plug of the VT-F90EM (HKN) issued previously.
Use this manual together with the following manuals.

Manuals related to the VT-F90EM(HKN)R

Model	Manual No.	Chapters included
VT-F90EM(HKN)	No.4318E	Chapters 1-6, 8
VT-F90EM(HKN)	No.4318E-1	Chapter 7

Different Sections

	VT-F90EM(HKN)	VT-F90EM(HKN)R
Shape of power plug	Part No. 5852851 	Part No. 5852747 
Power plug adaptor	Supplied	Not supplied

VHS

This video deck is a VHS type video recorder. For proper operation, only the VHS type cassette must be used.

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

VIDEO CASSETTE RECORDER

December 1994 Video & Personal Media Systems Division, Tokai Operation

HITACHI

VT-F90EM(HKN)R TK №.4318E-2 Video & Personal Media Systems Division, Tokai Operatio

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SYMBOL-NO	P-NO	DESCRIPTION
R19	4110961	RESISTOR 30.9KOHM
R20	4110962	RESISTOR 20KOHM
R26	0700027	CARBON FILM 100 OHM+-5% 1/8W
R27	0700054	CARBON FILM 10KOHM+-5% 1/8W
R28	0700052	CARBON FILM 6.8KOHM+-5% 1/8W
R29	4110963	RESISTOR 2.7KOHM 1/2W
R32	4110951	RESISTOR 22OHM 2W
R33	0700052	CARBON FILM 6.8KOHM+-5% 1/8W
R35	0700046	CARBON FILM 2.7KOHM+-5% 1/8W
R36	4110963	RESISTOR 2.7KOHM 1/2W
R38	0700061	CARBON FILM 33KOHM+-5% 1/8W
R39	0700054	CARBON FILM 10KOHM+-5% 1/8W
R40	0700056	CARBON FILM 15KOHM+-5% 1/8W
⚠R41	4110967	RESISTOR 820KOHM 1/4W
R44	4110968	RESISTOR 330KOHM 1/2W
R45	4110968	RESISTOR 330KOHM 1/2W
R46	0700069	CARBON FILM 150KOHM+-5% 1/8W
R47	0700061	CARBON FILM 33KOHM+-5% 1/8W
R48	0700073	CARBON FILM 270KOHM+-5% 1/8W
R49	4110968	RESISTOR 330KOHM 1/2W
R50	4110968	RESISTOR 330KOHM 1/2W
R52	0700034	CARBON FILM 330OHM+-5% 1/8W
R56	0700019	CARBON FILM 27 OHM+-5% 1/8W
		SEMI-CONDUCTORS
⚠D 1	4113161	DIODE S1WBA40
D 3	4113171	DIODE MA2270
D 4	5332401	DIODE MA165
D 5	4113181	DIODE MA4051N
D 6	5332401	DIODE MA165
D 7	5332401	DIODE MA165
D 8	5333151	DIODE EG01-G3
D 9	4113191	DIODE MA700
D10	5333191	DIODE RU4Y-K1
D11	5332071	DIODE ERC81-004
D12	4113201	DIODE MA179
D15	5333151	DIODE EG01-G3
D16	4113211	DIODE MA2180
D17	5333151	DIODE EG01-G3
D20	4113221	DIODE MA4110N-L
D21	4113261	DIODE HZ9B1L
D22	5332401	DIODE MA165
D23	5332401	DIODE MA165
D24	5332401	DIODE MA165
D25	5332401	DIODE MA165
D27	5332401	DIODE MA165
D28	5332401	DIODE MA165
D29	5332401	DIODE MA165
D30	4113231	DIODE MA4300
D31	4113241	DIODE MA4120
D32	5332401	DIODE MA165
D33	4113251	DIODE ERA15-01
D34	4113271	DIODE MA4075
⚠IC 1	4113111	IC PS2561-1
IC 2	4113121	IC AN1431T
⚠PR 2	5721807	IC PROTECTOR
Q 1	5322461	TRANSISTOR 2SD637R SILICON 150MHZ 0.
Q 2	4113131	TRANSISTOR 2SK1030
Q 3	5322471	TRANSISTOR 2SB644R SILICON
Q 6	4113141	TRANSISTOR 2SB641
Q 7	4113151	TRANSISTOR 2SC3852
Q 8	4113151	TRANSISTOR 2SC3852
Q 9	5322461	TRANSISTOR 2SD637R SILICON 150MHZ 0.
Q10	5322461	TRANSISTOR 2SD637R SILICON 150MHZ 0.

SYMBOL-NO	P-NO	DESCRIPTION
Q11	5322461	TRANSISTOR 2SD637R SILICON 150MHZ 0.
Q12	4113151	TRANSISTOR 2SC3852
		TRANSFORMER
⚠T 1	4110984	TRANSFORMER, POWER
		COILS
L 2	4110977	COIL
L 3	4110978	COIL
L 4	4110979	COIL 10UH
L 6	4110979	COIL 10UH
⚠L 7	4110981	COIL 18MH
L 8	4110982	COIL
L 9	4110982	COIL
L10	4110982	COIL
L11	4110982	COIL
		MISCELLANEOUS
⚠F 1	4110975	FUSE 2A 250V